



329555

# **Five-Year Review Report**

## **First Five-Year Review Report**

**for**

**Jennison-Wright Corporation Site**

**Granite City**

**Madison County, Illinois**

**June 2009**

**PREPARED BY:**

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Region 5**

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6/15/09

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## Five-Year Review Report

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### **List of Acronyms**

AST	Aboveground Storage Tank
ACM	Asbestos-Containing Material
ARAR	Applicable or Relevant and Appropriate Requirement
BGS	Below Ground Surface
CFR	Code of Federal Regulation
COPC	Contaminant of Potential Concern
CUO	Cleanup Objective
CY	Cubic Yards
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EE/CA	Engineering Evaluation and Cost Analysis
ERA	Ecological Risk Assessment
ESD	Explanation of Significant Difference
Fe	Iron
FYR	Five-Year Review
HRC	Hydrogen Release Compound
IC	Institutional Control
IDNR	Illinois Department of Natural Resources
JW	Jennison-Wright
MCL	Maximum Contaminant Level
Mn	Manganese
NAPL	Non-Aqueous Phase Liquid
NPL	National Priorities List
O&M	Operation and Maintenance
ORC	Oxygen Release Compound
PAH	Polynuclear Aromatic Hydrocarbon
PCP	Pentachlorophenol
PFR/RAU	Potential for Reuse/Ready for Anticipated Use
RAO	Remedial Action Objective
ROD	Record of Decision
RACM	Regulated ACM
SVOC	Semi-Volatile Organic Compound
TBC	To Be Considered
TEF	Toxicity Equivalent Factor
U.S. EPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UU/UE	Unlimited Use/Unrestricted Exposure
VOC	Volatile Organic Compound

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## **Executive Summary**

The Jennison-Wright site is located in Granite City, Madison County, Illinois. The Illinois Environmental Protection Agency, in consultation with the U.S. Environmental Protection Agency, issued a Record of Decision (ROD) in September 1999 and an Explanation of Significant Differences (ESD) in October 2005 to clean up the site by: excavation of contaminated soils; removal of listed hazardous wastes, debris and miscellaneous items; removal and treatment of non-aqueous phase liquid (NAPL); and treatment and monitored natural attenuation of groundwater. The second Explanation of Significant Differences from June 2009 further modified the remedy to include institutional controls, the excavation of contaminated soils under 22<sup>nd</sup> Street, the change from aerobic biodegradation to anaerobic biodegradation as a method to remediate groundwater, and excavation of NAPL beneath the Jennite pit. The construction of the remedy is not yet complete; the expected completion date is September 2009. Additionally, the required institutional controls (ICs) have not yet been implemented. Long-term protectiveness requires implementation of the remedy including compliance with effective ICs. Compliance with effective ICs will be ensured by implementing, maintaining, monitoring and enforcing effective ICs as well as maintaining the site remedy components. Although ICs are not yet in place, the site is currently fenced and the site security personnel assure that site access is restricted. This is the first five-year review for the site. The trigger for this five-year review was the start date of the remedial action, September 24, 2004.

The remedy for the Jennison-Wright site is expected to be protective of human health and the environment upon completion of construction, the attainment of groundwater cleanup objectives and implementation of institutional controls. In the interim, there are no complete exposure pathways: therefore, there are no unacceptable risks.

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## Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): Jennison-Wright Corporation		
EPA ID (from WasteLAN): ILD006282479		
Region: 5	State: IL	City/County: Granite City/Madison
SITE STATUS		
NPL status: <input checked="" type="checkbox"/> Final <input type="checkbox"/> Deleted <input type="checkbox"/> Other (specify)		
Remediation status (choose all that apply): <input checked="" type="checkbox"/> Under Construction <input type="checkbox"/> Operating <input type="checkbox"/> Complete		
Multiple OUs?** <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Construction completion date:
Has site been put into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
REVIEW STATUS		
Lead agency: EPA <input checked="" type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency		
Author name: Nefertiti Simmons		
Author title: Superfund Remedial Project Manager		Author affiliation: U.S. EPA
Review period:** 08/13/2008 to 06/01/2009		
Date(s) of site inspection: 11/18/2008		
Type of review: <div style="text-align: right; margin-top: 10px;"> <input checked="" type="checkbox"/> Post-SARA   <input type="checkbox"/> Pre-SARA   <input type="checkbox"/> NPL-Removal only  <input type="checkbox"/> Non-NPL Remedial Action Site   <input type="checkbox"/> NPL State/Tribe-lead  <input type="checkbox"/> Regional Discretion                     </div>		
Review number: <input checked="" type="checkbox"/> 1 (first) <input type="checkbox"/> 2 (second) <input type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering action: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input type="checkbox"/> Actual RA Onsite Construction at OU # 00  <input type="checkbox"/> Construction Completion  <input type="checkbox"/> Other (specify)                         </div> <div> <input checked="" type="checkbox"/> Actual RA Start at OU # 00  <input type="checkbox"/> Previous Five-Year Review Report                         </div> </div>		
Triggering action date (from WasteLAN): 09/24/2004		
Due date (five years after triggering action date): 09/24/2009		

\* ["OU" refers to operable unit.]

### **Five-Year Review Summary Form, cont'd.**

#### **Issues:**

- The CUO for arsenic established in the 1999 ROD was selected based on its MCL at the time. Since that time the MCL for arsenic has been revised; it has decreased from 50 ppm to 10 ppm.
- Construction of the remedial action is currently underway at the site. Additionally, the ICs have not yet been implemented at the site. ICs must be implemented, monitored, maintained, and enforced.

#### **Recommendations and Follow-up Actions:**

- Illinois EPA will evaluate the protectiveness of the current CUO for arsenic and determine if the CUO should be revised.
- Illinois EPA, with consultation of U.S. EPA, will develop an IC plan six months after the site has reached construction completion. The plan will assure that effective ICs are implemented, monitored, maintained, and enforced.

#### **Protectiveness Statement(s):**

The remedy for the Jennison-Wright site is expected to be protective of human health and the environment upon completion of construction, the attainment of groundwater cleanup objectives, and the implementation of ICs. In the interim, there are no complete exposure pathways; therefore there are no unacceptable risks present at the site.

#### **Superfund Site Indicators:**

Date of last Regional review of Human Exposure Indicator (from WasteLAN): **August 15, 2007**

Human Exposure Survey Status (from WasteLAN): **Under control**

Date of last Regional review of Groundwater Migration Indicator (from WasteLAN): **August 15, 2007**

Groundwater Migration Survey Status (from WasteLAN): **Not under control**

Ready for Reuse Determination Status (from WasteLAN): **Not Ready for Anticipated Reuse**

## Five-Year Review Report

### I. Introduction

The purpose of five-year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in five-year review reports. In addition, five-year review reports identify issues found during the review, if any, and recommendations to address them.

The United States Environmental Protection Agency (U.S. EPA) has prepared this five-year review pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

*If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The agency interpreted this requirement further in the National Contingency Plan (NCP); 40 CFR §300.430(f)(4)(ii) states:

*If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action*

Region 5 U.S. EPA and Illinois EPA have conducted a five-year review of the remedial actions implemented at the Jennison-Wright Corporation (Jennison-Wright) site in Granite City, Illinois. This statutory review was conducted from August 13, 2008 through June 2009. This report, prepared by U.S. EPA, in consultation with Illinois EPA, documents the results of the review.

This is the first five-year review for the Jennison-Wright site. The triggering action for this review was the date of remedial action start, September 24, 2004. This five-year review is required due to the fact that hazardous substances, pollutants, or contaminants will be left on site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

## II. Site Chronology

**Table 1: Chronology of Site Events**

<b>Event</b>	<b>Date</b>
Facility operations	About 1921 to 1989
Judicial Consent Decree signed between Jennison-Wright Corporation and Illinois EPA	January 1986
Completed site assessment	1988
Jennison-Wright Corporation files for bankruptcy	November 1989
CERCLA Expanded Site Inspection report	July 1991
On-site stabilization work (first removal action)	May 1992
Engineering Evaluation/Cost Analysis (EE/CA) for removal action	January 1994
Second removal action	November 1994 to March 1995
Proposal to National Priorities List (NPL)	October 2, 1995
Final NPL listing	June 17, 1996
EE/CA for remedial action	February 1997 to September 1999
Record of Decision (ROD) signed	September 29, 1999
Remedial design start	September 30, 1999
Third removal action	2003
Remedial design complete	July 21, 2003
Remedial action start	September 24, 2004
First Explanation of Significant Differences	October 2005
Second Explanation of Significant Differences	June 2009
Construction Completion	September 30, 2009 (Estimate)

### **III. Background**

#### **Physical Characteristics**

The Jennison-Wright property is a 20-acre abandoned railroad-tie treating facility and is located at 900 West 22<sup>nd</sup> Street in Granite City, Madison County, Illinois, approximately six miles northeast of downtown St. Louis, Missouri. The property is about two miles west of the Mississippi River and is in Section 13, Township 3 North, Range 10 West. See Attachment 1 for maps of the site.

The area surrounding the property is a mixed residential-industrial neighborhood. The property is bisected by 22<sup>nd</sup> Street, with former storage areas for untreated and treated wood located north of this street and the former facility process areas located south of the street. The Illinois-American Water Company waterworks facility is immediately north of the site. Railroad tracks border the site along the entire eastern boundary, and an alley and residences border the site along its entire western boundary.

The site topography is relatively flat, with surface runoff toward the northeast from areas north of 22<sup>nd</sup> Street. In the St. Louis metropolitan area, the Mississippi River occupies a deep bedrock valley that has been filled with both glacial outwash material and recent alluvium. The thickness of the valley fill is generally greater than 100 feet. In the Granite City area, the thickness is about 115 feet. The stratigraphy of the valley fill consists of silt, clay, sand, and gravel. The upper 15 to 30 feet is commonly silt and clay with fine sand. Below this depth, the deposits vary from poorly graded to well graded sands and gravels, grading to coarser sands and gravels that extend to bedrock. The bedrock in the area consists of Mississippian and Pennsylvanian limestone and dolomites with lesser amounts of shale and sandstone.

Major supplies of groundwater have historically been withdrawn from the valley fill material. Although some private and industrial wells are still located in the area, the majority of the domestic and industrial water for the Granite City area is obtained from the Mississippi River. Groundwater in the valley fill deposits occur under unconfined water table conditions. The water table is generally found at depths ranging from 15 to 20 feet below ground surface (bgs). Groundwater flow is primarily southwest towards the Mississippi River, except in areas of high pumpage, which form large depressions in the water table. The bedrock in the area is considered a poor source of water primarily due to its low permeability and poor water quality.

#### **Land and Resource Use and History of Contamination**

Operations at the facility began prior to 1921 and continued until 1989 with three separate companies operating at the site: Midland Creosoting Company (prior to 1921-1940), the Jennison-Wright Corporation (1940-1981) and 2-B-J.W., Inc (1981-1989), authorized to do business as Jennison-Wright Corporation. Jennison-Wright Corporation filed for bankruptcy in November 1989, with an auction held in 1990 to sell the remaining equipment and materials. The site remained vacant from 1990 until the first removal cleanup action began in 1992.

The Jennison-Wright Corporation site is a triangular-shaped facility that is bisected by 22<sup>nd</sup> Street, creating a north and south portion. The area south of 22<sup>nd</sup> Street was the former location of treatment processes for wood products (railroad ties and wood block flooring) using pentachlorophenol (PCP), creosote and zinc naphthenate. Creosote was used for treating wood products prior to 1921 to 1989. Pentachlorophenol was used from 1974 to 1985, and zinc naphthenate was used from 1985 to 1989. The area to the north of 22<sup>nd</sup> Street was primarily used for drying the treated wood and for storage of supplies.

Jennite (an asphalt sealer product composed of coal tar pitch, clay, and water) was manufactured in the southeastern corner of the facility. The process began in the early 1960s and continued until the summer of

1986 when Jennison-Wright sold the Jennite process to Neyra Industries. Neyra Industries leased the portion of the facility used by Jennison-Wright for the sealer and continued manufacturing the asphalt sealer until the bankruptcy in 1989.

A site investigation performed by Illinois EPA in 1988 showed that subsurface contamination was found both in the soil and groundwater. The soil contamination was visible and was confirmed analytically through the unsaturated zone to groundwater, near the 22<sup>nd</sup> Street lagoon, the Jennite pit, and the PCP process area. Soil contamination in the remainder of the site was found at various depths ranging from one to five feet bgs. Illinois Environmental Protection Agency (Illinois EPA) completed six soil borings in 1991, which showed discolored oily groundwater contamination.

Illinois EPA conducted an Engineering Evaluation and Cost Analysis (EE/CA) investigation in January 1994 and found:

- Significant sources of contamination at the site in drums and tanks;
- Dioxins/furans and carcinogenic polynuclear aromatic hydrocarbons (PAHs) in surface soils;
- PCP in groundwater in the PCP process area; and carcinogenic PAHs, benzene, PCP, arsenic, 2, 4-dimethylphenol, and naphthalene in groundwater at the 22<sup>nd</sup> Street lagoon;
- Benzene and naphthalene in subsurface soils;
- Structurally unsound on-site buildings and silos; and
- Four on-site buildings containing regulated asbestos containing material (ACM).

Currently, there is no on-site use of the property. The facility is situated in a mixed industrial/residential neighborhood and is bordered by the Norfolk-Southern Railroad lines to the east and south, residential areas to the west, and property occupied by the Illinois-American Water Company, a residential area and 23<sup>rd</sup> Street to the north.

The anticipated future use of the property is assumed to be commercial/industrial. Factors contributing to this assumption include:

- Records indicating the use of the property has been commercial/industrial for many years;
- Proximity of the adjacent railroad spur makes the property much more attractive to industrial use rather than residential; and
- Granite City has expressed an interest in redeveloping the site as an industrial complex once the remedial efforts have been completed.

Groundwater in the vicinity of the site is encountered at a depth of 17 feet bgs and flows southwesterly across the site. Although some private and industrial wells are still located in the area, the majority of the domestic and industrial water for the Granite City area is obtained from the Mississippi River.

At the time of this five-year review the current and projected land use has not changed. It is anticipated that deed restrictions will be implemented to prohibit residential use of the site.

### **Initial Response**

Operations at the site ceased in 1989. Pre-ROD Illinois EPA actions included an on-site stabilization effort, two additional removal actions, and demolition of on-site buildings.

The first removal action was conducted in May 1992 by Illinois EPA. In the summer of 1992, Illinois EPA used trust fund monies from the bankruptcy sale to initiate a stabilization effort on the site to alleviate the spread of contamination. The east boundary of the south portion of the site contained the "Jennite pit" (an on-

site disposal pit where creosote wastes were dumped) which had become semi-liquid and begun to migrate off-site. To temporarily alleviate this problem, the overflowing material was removed and placed in three cutoff tanks. A temporary clay cap was constructed using materials on-site to shore up the boundaries of the Jennite pit. Approximately 175 drums of various known and unknown materials were found on-site including 15 drums of creosote-contaminated asbestos insulation. These drums were stored on-site in an existing structure. Other work accomplished during this removal included removal of 22 cubic yards (cy) of ACM; pumping of 1,300 gallons of creosote-contaminated water to an above ground storage tank; and excavation and temporary on-site storage of creosote, tar, and contaminated soil that had migrated off-site from the Jennite pit.

Illinois EPA initiated the second removal response on November 8, 1994 and completed it on March 6, 1995. The action implemented the recommendations in the 1994 EE/CA, which included:

- Installation of a six-foot chain link fence around the area of stockpiled soil and drainage area at the northeast corner of the site;
- Excavation and disposal of soils around the upright storage tanks, railroad cars;
- Removal of aqueous waste from the various storage vessels, treatment by oil/water separation, and off-site disposal at a water treatment plant;
- Removal and disposal of creosote waste material from the storage vessels;
- Decontamination/dismantling of the storage vessels;
- Characterization of the material within the drums inside the transite building and proper disposal;
- Installation of a protective geomembrane and clay cap over the "Jennite pit".
- Removal of the contaminated soil in the three cutoff tanks in the south portion of the site and dismantling of the tanks.

Subsequent to the removal action, the site was finalized on the National Priorities List (NPL) on June 17, 1996.

As part of a third removal action at the site, in 2003, Illinois EPA demolished on-site buildings, removed aboveground storage tanks (ASTs), underground storage tanks (USTs) and debris piles, and constructed a permanent decontamination pad on the southern portion of the site.

### **Basis for Taking Action**

Past site practices have resulted in leakage/spillage of chemicals to surface soils, or, in the case of the Jennite pit and the 22<sup>nd</sup> Street lagoon, direct deposition of wastes into the soil. Once released to the soil, contamination migrated to subsurface soils and groundwater. Table 2 shows the chemicals present in each media of concern. Contaminants of concern in site soil included phenols, dioxins, and a number of semi-volatile organic compounds (SVOCs) most of which were PAHs. Benzo(a)pyrene, a PAH, was detected in site soil samples at a maximum concentration of 2,800,000 ug/kg, and another PAH, naphthalene, was detected at concentrations up to 4,200,000 ug/kg. Pentachlorophenol (PCP) was detected in site soils at concentrations up to 670,000 ug/kg. Dioxins were detected in site soils at a toxicity equivalency factor (TEF) of up to 66 ug/kg. Groundwater at the site contained phenols and PAHs, as well as volatile organic compounds (VOCs) such as benzene, xylenes, and toluene. The most significant areas of groundwater contamination identified were in the northeast corner of the south portion of the site near the 22<sup>nd</sup> Street lagoon and the former PCP treatment process area. Phenol was detected in groundwater at concentrations up to 9,800 ug/l, PCP at concentrations up to 88,000 ug/l, and naphthalene at concentrations up to 21,000 ug/l. Sample results collected from the site indicate that in shallow groundwater, PCP contamination is highest in the vicinity of the former PCP process area and the 22<sup>nd</sup> Street lagoon. PCP concentrations are significantly

lower in the intermediate groundwater samples collected in these areas, suggesting that limited downward migration of PCP in groundwater has occurred at the site.

**Table 2**  
**Chemicals of Potential Concern in Soil and Groundwater**

Chemical	Medium		
	Surface Soil	Subsurface Soil	Groundwater
Acenaphthene	X	X	X
Arsenic			X
Benzene		X	X
Benzo(a)anthracene	X		
Benzo(a)pyrene	X	X	
Benzo(b)fluoranthene	X	X	X
Benzo(k)fluoranthene	X	X	X
Beryllium	X		
Carbazole	X	X	
Chloroform			X
Chromium	X		
Chrysene	X	X	X
Di(2-ethylhexyl)phthalate			X
Dibenzo(a,h)anthracene	X	X	
1,2-Dichloroethane			X
2,4-Dimethylphenol		X	X
Ethylbenzene			X
alpha-Hexachlorocyclohexane	X		X
Indeno(1,2,3-cd)pyrene	X	X	
Lead	X		X
Manganese	X		X
Methylene chloride			X
2-Methylphenol			X
Naphthalene	X	X	X
Pentachlorophenol	X	X	X
Phenol			X
2,3,7,8 TCDD Equivalents	X		
Thallium			X
Toluene			X
Trichloroethene			X

Illinois EPA also collected 81 gridded surface soil samples, 15 biased surface soil samples, 72 subsurface soil samples, 4 sediment samples, and a total of 58 groundwater samples in the shallow (20 feet bgs), intermediate (45 feet bgs), and deep (100 feet bgs) ranges. Contamination from site operations was found in both surface and subsurface samples with varying degrees of concentration. Contamination was also found in the groundwater in all three depth ranges with a significant NAPL source in the northeast corner of the south portion of the site.

During the EE/CA, a risk assessment was performed to estimate the health or environmental problems that could result if the proposed actions were not conducted to clean up the site. The general conclusion of the human health risk assessment conducted for the Jennison-Wright site was that the site posed unacceptable risks to human health in both current and hypothetical future use scenarios. Some remedial action was



therefore warranted.

There are a number of major factors causing the unacceptable risks for humans including:

- The presence of dioxins/dibenzofurans and carcinogenic PAHs in site surface soils;
- The presence of several PAHs and PCP in the groundwater at several locations around the site; and
- The presence of benzene and naphthalene in subsurface soils.

Exposure scenarios were evaluated for a number of possible exposures and reflect the excess lifetime cancer risks if no cleanup activities are conducted. An industrial/commercial use of the property was assumed for purposes of projecting future risk due to the history of the site as an industrial complex. Seven different exposure scenarios were considered: current site visitor (soil and air exposure); current nearby residents (air exposure); future permanent site worker (soil and air exposure); future permanent site worker (groundwater ingestion exposure); future construction worker (soil and air exposure); future nearby residents (chronic air exposure); and future nearby residents (during construction). Three exposure risks exceeded acceptable levels: site visitor (soil and air exposure), future permanent site worker (groundwater ingestion exposure), and future construction worker (soil and air exposure).

The Ecological Risk Assessment (ERA) was prepared based on information collected by Illinois EPA during the site characterization investigation from July through September 1997. Federal and state agencies were contacted for information on sensitive habitats and protected species in the vicinity of the site, and relevant maps were reviewed to identify nearby sensitive habitats. In addition, information was obtained from a local Illinois Department of Natural Resources (IDNR) representative who visited the site. A quantitative ecological risk evaluation for the Jennison-Wright site was not performed because the findings of the ERA indicate that the site is not likely to impact wildlife. The conclusions of the ecological portion of the risk assessment are:

- Habitat at the Jennison-Wright site is of a very low quality to wildlife;
- The site is located in a mixed industrial/residential area. Only common wildlife accustomed to human activity and disturbance are likely to use the site; and
- The closest aquatic resource and ecologically sensitive areas to the Jennison-Wright site are located approximately one mile away and are not likely to be impacted by on-site contamination.

Based on the above, no adverse impacts to wildlife and/or sensitive habitats in the vicinity of the site were expected to result from contamination at the Jennison-Wright site.

#### **IV. Remedial Actions**

##### **Remedial Action Objectives**

Based on the identified applicable or relevant and appropriate requirements (ARARs) and to be considered (TBC) requirements, and the need to reduce the potential threat to human health and the environment, the following general remedial action objectives (RAOs) were developed for the Jennison-Wright site:

- Prevent current nearby residents and potential future site workers from contacting, ingesting, or inhaling on-site soil and waste materials containing chemicals of potential concerns (COPCs) that exceed the calculated risk-based cleanup objectives (CUOs) (see Attachment 2);
- Prevent the continued release of contaminants to groundwater;
- Initiate long-term groundwater restoration to maximum contaminant levels (MCLs);

- Abate regulated asbestos-containing material (RACM) present in the on-site buildings;
- Remove listed hazardous waste from the site for treatment and disposal at an appropriately licensed facility;
- To the extent practical, pump NAPL from the subsurface in the vicinity of the 22<sup>nd</sup> Street lagoon; and
- Treat collected groundwater.

### **Remedy Selection**

The 1999 ROD envisioned five operable units: soils and wastes, NAPL, groundwater, buildings, and miscellaneous items. These operable units reflect the principal purpose of the selected remedy, which was to control exposure to site contaminants by: treating on-site contaminated soils; removing listed hazardous wastes, debris and miscellaneous items; removal and treatment of NAPL; and treating groundwater. Also, while remedial action is on-going, the site has been fenced and periodic groundwater monitoring has been conducted. The cleanup goals were based on commercial/industrial use, consistent with the current and projected future land use. Specifically, the main components of remedy selected in the September 29, 1999 ROD were:

- For site wastes consisting of the drip track residue and the oils found on-site, the selected alternative was to remove the waste and have it disposed at a hazardous waste facility.
- For site soils, a landfarm would be constructed in the northeast portion of the site. This component of the remedy was changed to excavation and off-site disposal per the October 2005 ESD.
- For NAPL removal, hot water flushing was the selected alternative rather than surfactant flushing because it was a more proven technology.
- For the more highly contaminated groundwater plumes, the preferred alternative was enhanced in situ biological treatment using oxygen release compounds (ORC) and air sparging. Natural attenuation was the selected alternative for the other areas of the site where the groundwater contamination is at a much lower level.
- The buildings and other structures on the site would be razed and the asbestos containing materials inside would be abated.
- Miscellaneous items, such as debris piles, storage tanks, abandoned steel trams and several sumps and pits were to be removed from the site.

An October 2005 ESD modified the soil remediation method from landfarming treatment in an on-site treatment unit to excavation and off-site disposal of contaminated soil. The excavated areas would then be backfilled with clean material and seeded.

A second ESD, signed in June 2009, modified the remedy to include: institutional controls, the use of a different substrate to enhance in situ groundwater bioremediation, excavation of soils beneath 22<sup>nd</sup> Street, extraction and off-site disposal of NAPL from the Jennite pit, and identification of a contingency remedy for potential additional NAPL and groundwater contamination in the Jennite pit area.

### **Remedy Implementation**

The remedial design prepared by Illinois EPA began on September 30, 1999 and was completed on July 2, 2003. The remedial action started a year later, on September 24, 2004, and is still on-going. The expected completion date is September 2009. An operation and maintenance (O&M) plan has not been drafted, and O&M activities have not yet begun. An O&M plan will be prepared once the site is construction complete in September 2009 (estimate).

As of the date of this report, the remedial action is approximately 80 percent complete. All buildings and on-site debris have been removed from the site. Trip track residues and oils have been removed from the site and disposed of appropriately. Site soils from both the north and south parcels have been excavated as dictated by the October 2005 ESD. Illinois EPA has recently finished the excavations of the 22<sup>nd</sup> Street lagoon, the Jennite pit and portions of 22<sup>nd</sup> Street. Groundwater remediation activities to date have included groundwater sampling and Hydrogen Releasing Compounds (HRC) injection in the PCP contamination plume. The only major tasks remaining are the construction of the groundwater treatment plant, excavation under 22<sup>nd</sup> Street, the further investigation of NAPL.

### **Institutional Controls**

Institutional controls are required to ensure the protectiveness of the remedy. Institutional controls (ICs) are non-engineered instruments, such as administrative and/or legal controls, that help minimize the potential for exposure to contamination and protect the integrity of the remedy. Compliance with ICs is required to assure long-term protectiveness for any areas which do not allow for unlimited use or unrestricted exposure (UU/UE).

### **Status of ICs and Follow-up Actions Required**

The remedy selected and its modifications require institutional controls to be implemented to restrict future use of the site to commercial/industrial purposes. However, these controls are not yet in place. Long-term protectiveness requires implementation of the remedy including compliance with effective ICs. Compliance with effective ICs will be ensured by implementing, maintaining, monitoring and enforcing effective ICs as well as maintaining the site remedy components. The table below identifies site areas that do not support UU/UE and require land and groundwater use limitations in order to be protective of human health and the environment. Although ICs are not yet in place, the site is currently fenced and the site security personnel assure that site access is restricted. The June 2009 ESD, identified institutional controls to implement the land and groundwater use limitations shown in Table 3. An IC Plan will be implemented once the construction of the remedial action is complete in September 2009. The IC Plan will include maps which depict the current conditions of the site and areas which do not support UU/UE. The Illinois legislature passed the Illinois Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA), which became effective on January 1, 2009. The IC Plan will require implementation of the ICs (including UECA Environmental Covenants) over non-UU/UE areas as shown in Table 3:

**Table 3: Institutional Controls Summary Table**

<b>Media, Engineered Controls, &amp; Areas that Do Not Support UU/UE Based on Current Conditions.</b>	<b>Land Use Restrictions, Limitations and/or Objectives</b>	<b>Title of Institutional Control Instrument (Planned)</b>
Jennison-Wright Property	Limit property uses to those compatible with commercial/industrial use.	Planned: UECA Environmental Covenant
Area to the east of the eastern border of the Jennison-Wright Property extending from 22 <sup>nd</sup> Street to the southern boundary.	Prohibit excavation of soil and prohibit groundwater use.	Planned: UECA Environmental Covenant
The former drip track area in the vicinity of 22 <sup>nd</sup> street along the eastern boundary of the Jennison Wright Property.	Prohibit excavation of soil in the area.	Planned: UECA Environmental Covenant

Area H – the northeast corner of the site.	Prohibit excavation of soil in the area.	Planned: UECA Environmental Covenant
Groundwater: On-site and Off Property (Alley on western border and area east of eastern border).	Prohibit well drilling, use of groundwater as drinking water and prohibit exposure to groundwater with levels above CUOs.	Planned: City Drinking Water Ordinance
Alley adjacent to western boundary of southern portion.	Prohibit groundwater use and land use (prohibit excavation and disturbance of cover).	Planned: UECA Environmental Covenant and Drinking Water Ordinance

Maps which depict the current conditions of the site and areas which do not allow for UU/UE will be developed as part of the IC Plan and IC implementation described above.

Long Term Stewardships of ICs: The IC Plan will also include provisions to ensure maintenance and compliance with land and groundwater restrictions and limitations at the site. Long-term protectiveness requires compliance with effective ICs. Long-term stewardship procedures will be developed to ensure that the remedy continues to function as intended with regard to ICs. The plan should include regular inspection of ICs at the site and annual certification to U.S. EPA that ICs are in-place and effective. Additionally, use of a communications plan and use of a one-call system should be explored for long-term stewardship.

#### **Operation and Maintenance (O&M)**

Operation and maintenance for this site has yet to commence because the site is not construction complete; therefore, no O&M costs can be documented.

#### **V. Progress Since the Last Review**

This is the first five-year review report.

#### **VI. Five-Year Review Process**

##### **Administrative Components**

Illinois EPA sent out a notice of intent to do a five-year review for the Jennison-Wright site in December 2008, and U.S. EPA began working on the review in February 2009. The components of the five-year review include:

- Community Notification and Involvement
- Document Review
- Data Review
- Site Inspection
- Report Development and Review

##### **Community Notification and Involvement**

Illinois EPA placed a public notice in the Granite City Press-Record on August 10 and 13, 2008 to inform the public of the upcoming review (see Attachment 3). The notice also reminded the public of the selected remedy and where the information repository was located.

On June 2008, Illinois EPA handed out 125 fact sheets to the community in the vicinity of the site (see

Attachment 4). The fact sheet explained the history of the site, the remedy, current activities and the expected completion date of the remedy.

On April 9, 2009 U.S. EPA and Illinois EPA conducted in-person community interviews. Interviewees included residents who live along the site boundary lines, a security guard, the City Engineer and the Mayor. In general the community was pleased with the work completed so far; the area looks much better than it did before. The major complaints were: 1) the truck traffic is bothersome; 2) there is now more noise in the area since the trees were cut down; and 3) little care was taken to preserve the integrity of the area, since it was already in bad shape. These interviews are included as Attachment 6 of this document.

### **Document Review**

U.S. EPA reviewed the following documents:

- The January 1994 EE/CA and September 1999 EE/CA by Illinois EPA
- The September 29, 1999 Record of Decision by Illinois EPA
- The July 2003 Remedial Design by Illinois EPA
- The October 2005 ESD by Illinois EPA and U.S. EPA
- The June 2009 ESD by Illinois EPA and U.S. EPA

### **Data Review**

U.S. EPA and Illinois EPA reviewed data from the ROD and EE/CA to ensure that the selected cleanup objectives would still be protective. Also, U.S. EPA and Illinois EPA reviewed a series of groundwater and soil sampling reports to determine the effectiveness of the selected remedy. Although the contaminants still exceed CUOs, the data show that the remedy has been effective so far.

### **Groundwater Monitoring**

Groundwater monitoring was conducted at the Jennison-Wright site in 2003, 2005, 2007, and 2008. These sampling results show a decreasing trend for contaminant concentrations onsite. Figure 4 (see Attachment 7) shows monitoring well and temporary well direct push sample locations. Following all sampling events the CUOs established in the ROD were compared to the groundwater sample results. Table 6, of Attachment 7, contains the sampling results from 2003 through 2008.

Illinois EPA conducted a groundwater investigation in July 2003 from eight new monitoring wells (MW12S through MW19S). Groundwater samples were collected from the eight shallow monitoring wells for VOCs, SVOCs, iron (Fe), and manganese (Mn). Fe and Mn were monitored to determine application rates of HRC. Only two chemicals were detected above site CUOs at the new monitoring well locations, manganese at 2,010 micrograms per liter (µg/L) in MW16S and benzene at 12,600 µg/L in MW16S.

In January of 2005 Illinois EPA conducted the first post-HRC injection groundwater investigation. Groundwater samples were collected from 18 shallow monitoring wells and 22 temporary well direct push locations. Groundwater samples were collected and analyzed for SVOCs and PCP. Three monitoring wells and six temporary well locations had contaminants detected above site CUOs. The maximum concentration of PCP (96,800 µg/L) was detected at MW8S. The maximum concentration of naphthalene (19,800 µg/L) was detected at MW5S. The maximum concentration of 2,4-dimethylphenol (17,600 µg/L) and 2-methylphenol (28,500 µg/L) was also detected at MW5S. The maximum concentration of benzene (20,400 µg/L) was detected at GP49.

Illinois EPA conducted a groundwater investigation at the Jennison Wright site in August 2007. As part of this investigation, groundwater samples were collected from 18 monitoring wells, and 20 temporary well

direct-push borings. Samples were analyzed for SVOCs, PCP and VOCs. Six temporary well locations and five monitoring wells had detections of contaminants in the groundwater samples that exceeded the CUOs. The maximum concentration of PCP (74,000 micrograms per liter (µg/L)) was detected at MW8S. The maximum concentration of naphthalene (19,000 µg/L) was detected at MW5S. The maximum concentration of 2,4-dimethylphenol (20,000 µg/L) and 2-methylphenol (19,000 µg/L) was also detected at MW5S. The maximum concentration of benzene (21,000 µg/L) was detected at GP49.

In November 2008, Illinois EPA conducted a groundwater investigation at the site from November 17 through December 4, 2008. As part of this investigation, groundwater samples were collected from 12 monitoring wells. Groundwater samples were also collected from 15 temporary well direct push boring locations. Samples were analyzed for SVOCs, PCP and VOCs. Nine Geoprobe locations and seven monitoring wells had detections of contaminants in the groundwater samples that exceeded the CUOs for at least one of the contaminants of concern. The maximum concentration of PCP (62,000 µg/L) was detected at GP61. The maximum concentration of naphthalene (15,000 µg/L) was detected at MW-5SD. The maximum concentration of 2,4-dimethylphenol (19,000 µg/L) was detected at MW5S. The maximum concentration of 2-methylphenol (73,000 µg/L) was detected at MW5S. The maximum concentration of benzene (10,000 µg/L) was detected at MW16S. Historically, these locations have reflected the highest concentrations identified on the site.

Groundwater impacted above CUOs was determined to be present in several distinct areas throughout all of the investigations. In the northeast corner of the site, a slight exceedance of the CUOs for PCP was detected in MW2S. No other samples in the vicinity of MW2S had exceedances, thus indicating that this was an isolated area exceeding the CUO for PCP. On the eastern extent of the site, neighboring the 22<sup>nd</sup> Street lagoon, exceedances in samples from MW5S, GP51, GP53, and GP52 were detected. CUOs for several different compounds were exceeded in these samples, including PCP, naphthalene, benzene, 2, 4-dimethylphenol, 2-methylphenol. This area was documented to contain residual NAPL during the Engineering Evaluation/Cost Analysis (EE/CA) in 1999. In the middle of the site on the south side of 22<sup>nd</sup> Street two exceedances of the CUOs for benzene were detected at MW16S and GP49. GP49 also exceeded the CUO criteria for naphthalene. In the southwest area of the site, high concentrations of PCP above the CUOs were detected. Samples taken from MW8S, GP59, and GP61 all exceeded the CUO for PCP. GP61 was sampled at 23 ft and at 30 ft bgs. Both samples from GP61 exceeded the CUO criteria for PCP in 2007; however, the 30 ft bgs sample had a concentration more than 32 times greater than the 23 ft bgs sample. Lastly, a slight PCP exceedance was detected in MW6S in 2007. It is unclear if this exceedance is related to any of the surrounding groundwater contamination or if it is an isolated area. Figure 6 (see Attachment 7) shows the estimated plume depicted by PCP contamination concentration isopleths based on the groundwater results from the November 2008 sampling event collected at the Geoprobe borings and monitoring wells. Although contaminant concentrations still exceed CUOs, the sampling events show a general trend of contaminant concentration reduction, indicating the effectiveness of the selected remedy.

#### Soil Monitoring

A total of 72 soil samples were collected at 34 soil boring locations in selected areas along the site and submitted for SVOC and PCP analysis. The CUOs established in the ROD were compared to the soil sample results. Analytical data from 2008 is summarized in Table 7 (see Attachment 7). Any analytical sample result that exceeds a CUO is highlighted in the table.

#### **22<sup>nd</sup> Street**

Nine of the seventeen soil borings collected along 22<sup>nd</sup> Street revealed concentrations exceeding the CUOs. The analytical results showed that soil concentrations collected at the two western railroad spurs along 22<sup>nd</sup> Street, sample numbers SB1 through SB8, currently meet the CUOs for all compounds in soil with exception to the shallow samples from borings SB1 and SB2 where benzo(a)pyrene concentrations were detected at

values slightly higher than the CUO but within the U.S. EPA accepted range for the site at these boring locations. The remaining boring locations along 22<sup>nd</sup> Street, SB9 through SB17, displayed concentrations exceeding the CUOs defined for multiple compounds. Specifically, high concentrations of benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, and dibenzo(a,h)anthracene were detected in shallow soil samples collected from borings SB9, SB11 and SB12 at depths of 1 to 2 feet BGS. Additionally, concentrations appear to exceed the CUOs for several compounds in all four sample intervals taken at boring SB17, which is located in the vicinity of the 22<sup>nd</sup> Street lagoon. Contamination at boring SB17 appears to increase with depth and the highest concentrations were detected in the deepest sampling interval, 15 to 16 feet BGS. PCP was identified at boring SB17 but did not exceed the CUO. Exceedances were present in soil samples collected from borings SB13, SB15 and SB16 along the railroad spur adjacent to the 22<sup>nd</sup> Street lagoon, but only at depths of 1 to 2 feet. Contamination was detected in depths up to 4 feet; however, these values were well below the CUOs. In general, the majority of contamination that was detected along 22<sup>nd</sup> Street was isolated to a depth between 1 to 2 feet. The second ESD addresses these exceedances at 22<sup>nd</sup> Street; the material will be excavated as part of the final remedy.

#### **Site Inspection**

On November 18, 2008 a site inspection was conducted by an Illinois EPA project manager and two U.S. EPA project managers. The site inspection checklist is attached (see Attachment 5). No deficiencies were identified.

#### **Document Development and Review**

This document was developed and reviewed by:

Nefertiti Simmons, Remedial Project Manager, U.S. EPA, Region 5  
Mary Tierney, Remedial Project Manager, U.S. EPA, Region 5  
Erin Rednour, Illinois EPA  
Jose C. de Leon, Office of Regional U.S. EPA, Region 5  
Jan Carlson, Office of Regional Counsel, U.S. EPA, Region 5  
Ginny Narsete, Communication Involvement Coordinator, U.S. EPA, Region 5  
Stephanie Linebaugh, FYR coordinator, U.S. EPA, Region 5  
Sheri Bianchin, Institutional Controls Coordinator, U.S. EPA, Region 5  
Kevin Adler, Acting Section Chief, U.S. EPA, Region 5  
Steve Ridenour, Office of Superfund Remediation & Technology Innovation, U.S. EPA Headquarters

### **VII. Technical Assessment**

#### **Question A: Is the remedy functioning as intended by the decision documents?**

Yes. The remedy is currently under construction and is proceeding as planned. The data review has revealed the remedy is functioning as intended and the contaminant concentrations between subsequent sampling events have been decreasing. The remedy is expected to be fully functioning by September 2009 and institutional controls are expected to be implemented shortly thereafter.

#### **Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of remedy selection still valid?**

No, the cleanup level for arsenic (50 ppm) used at the time of remedy selection is no longer valid. The MCL for arsenic has changed from 50 ppm to 10 ppm. Illinois EPA will evaluate the protectiveness of the current CUO for arsenic and determine if the CUO should be revised via a remedy modification document (e.g. ESD).

**Question C: has any other information come to light that could call into question the protectiveness of the remedy?**

No. There has been no new information which would suggest the selected remedy will not be protective once fully implemented in September 2009.

**Technical Assessment Summary**

The remedy documented in the 1999 ROD and subsequent ESDs is expected to be completed and functioning as intended by September 2009. Exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of remedy selection are still valid, except for the arsenic clean up level, which decreased from 50 ppm to 10 ppm. No other new information has been identified which would suggest the selected remedy will not be protective once fully implemented in September 2009.

**VIII. Issues**

- The CUO for arsenic established in the 1999 ROD was selected based on its MCL at time. Since that time the MCL for arsenic been revised; it has decreased from 50 ppm to 10 ppm.
- Construction of the remedial action is currently underway at the site. Additionally, the ICs have not yet been implemented at the site. ICs must be implemented, monitored, maintained, and enforced.

**Table 4**  
**Issues**

<b>Issue</b>	<b>Currently Affects Protectiveness (Y/N)</b>	<b>Affects Future Protectiveness (Y/N)</b>
Arsenic MCL	N	Y
ICs must be implemented, monitored, maintained, and enforced.	N	Y



#### **IX. Recommendations and Follow-up Actions**

- Illinois EPA will evaluate the protectiveness of the current CUO for arsenic and determine if the CUO should be revised.
- Illinois EPA, in consultation with U.S. EPA, will develop an IC plan six months after the site has reached construction completion. The plan will assure that effective ICs are implemented, monitored, maintained and enforced.

**Table 5**  
**Recommendations and Follow-Up Actions**

<b>Issue</b>	<b>Recommendations/ Follow-up Actions</b>	<b>Party Responsible</b>	<b>Oversight Agency</b>	<b>Milestone Date</b>	<b>Affects Protectiveness? (Y/N)</b>	
					<b>Current</b>	<b>Future</b>
New Arsenic MCL	Evaluate whether CUO for arsenic should be revised	Illinois EPA	U.S. EPA	June 2010	N	Y
ICs must be implemented, monitored, maintained and enforced	Implement UECA Covenant	Illinois EPA	U.S. EPA	6 months after construction completion	N	Y
	Pass City Drinking Water Ordinance	Illinois EPA/ City	U.S. EPA	1 year after construction completion	N	Y

#### **X. Protectiveness Statement**

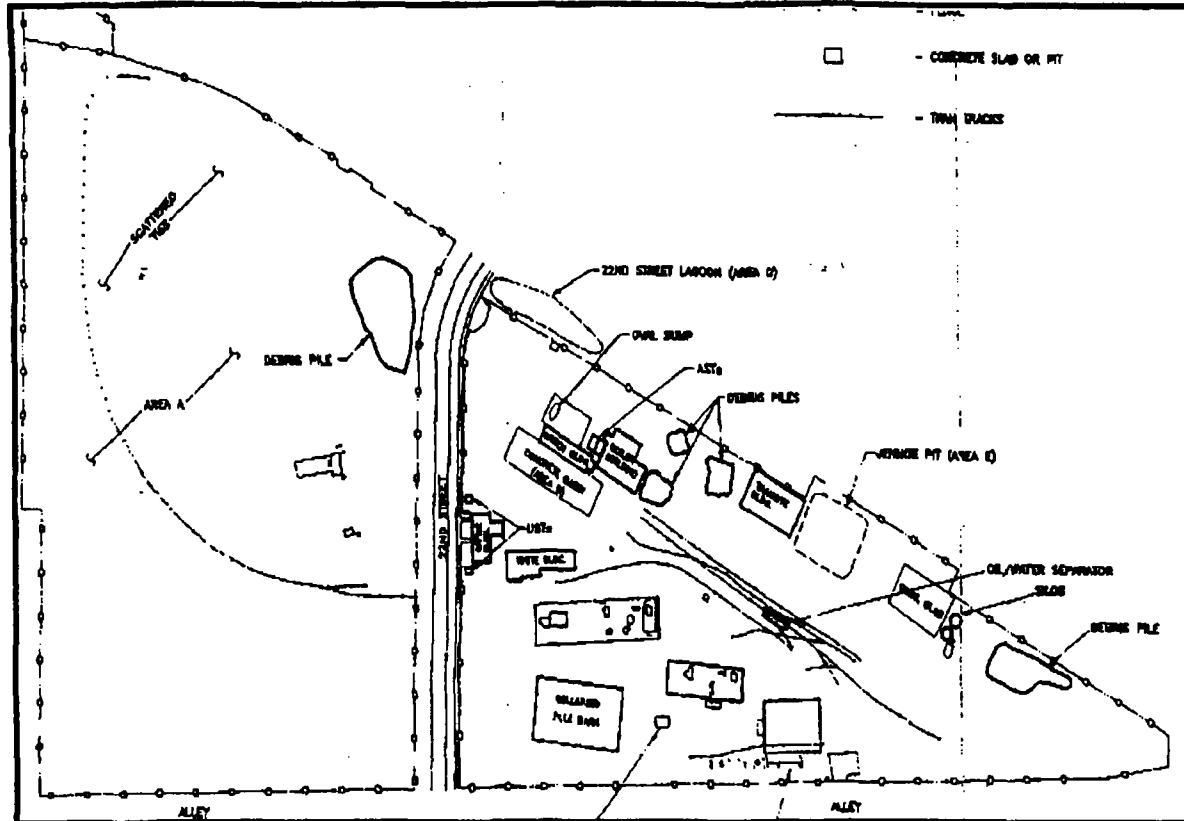
The remedy for the Jennison-Wright site is expected to be protective of human health and the environment upon completion of construction, the attainment of groundwater cleanup objectives, and the implementation of ICs. In the interim, there are no complete exposure pathways; therefore, no unacceptable risks are present at the site.

#### **XI. Next Review**

The next five-year review for the Jennison-Wright site is required five years from the signature date of this review.

## Attachments

## Attachment 1: Site Maps



Site Map

AH3  
 AH2  
 AH1  
 AH9  
 AHB

AREA H

TELEPHONE POLE W/ GUY WIRE

SB15  
 SB13  
 SB11  
 SB17

22ND STREET LAGOON (AREA G)



SCALE IN FEET:  
 0 100 250  
 SCALE: 1" = 150'

SB11  
 SB9  
 SB7  
 SB5  
 SB3  
 SB12  
 SB10  
 SB8  
 SB6  
 DECONTAMINATION PAD  
 SANITARY SEWER DROP PIPE

ALLEY

ALLEY  
 SB21  
 SB18  
 SB19  
 SB22  
 SB23

SB20

LEGEND

● - SOIL SAMPLE LOCATION

**ecology & environment engineering, inc.**  
 International Specialists in the Environment

DESIGNED BY T CAMPBELL	CHECKED BY J. JENKINS
DRAWN BY V. GIFF	APPROVED BY N. BROWN

FIGURE 1  
 2008 SOIL SAMPLE LOCATION

JENNISON-WRIGHT SITE  
 GRANITE CITY, ILLINOIS

DATE PLOTTED 01/2009	DATE FILED 1E1P_OP_FSP 012109	REVISION NO. 1	KEY
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**Attachment 2: Cleanup Objectives**

<b>CLEANUP OBJECTIVES JENNISON WRIGHT SUPERFUND SITE</b>		
<b>Soil COPC</b>	<b>Proposed CUO (µg/kg)</b>	<b>IEPA TACO Tier 1 (µg/kg)</b>
Benzene	3,000 <sup>a</sup>	2,100
Benzo(a)anthracene	14,000 <sup>b</sup>	170,000
Benzo(a)pyrene	2,000 <sup>c</sup>	17,000
Benzo(b)fluoranthene	22,000 <sup>c</sup>	170,000
Benzo(k)fluoranthene	32,000 <sup>b</sup>	1,700,000
Naphthalene	27,000 <sup>a</sup>	8,200,000
Carbazole	954,000 <sup>c</sup>	None
Dibenzo(a,h)anthracene	2,000 <sup>c</sup>	17,000
Indeno(1,2,3-cd)pyrene	11,000 <sup>b</sup>	170,000
PCP	51,000 <sup>b</sup>	520,000
TCDD-TEF	1	None

<b>CLEANUP OBJECTIVES JENNISON WRIGHT SUPERFUND SITE</b>		
<b>Groundwater COPC</b>	<b>Proposed CUO (µg/L)</b>	<b>IEPA TACO Tier 1 (µg/L)</b>
Arsenic	50	50
Benzene	10	5.0
Benzo(a)anthracene	0.13	0.13
Benzo(b)fluoranthene	0.18	0.18
Benzo(k)fluoranthene	0.4	0.17
Chrysene	4	1.5
PCP	1.0	1.0
alpha-BHC	0.03	0.03
Manganese	200	None
Naphthalene	400	25
2,4-Dimethylphenol	200	140
2-Methylphenol	500	350

### **Attachment 3: Public Notice of Five-Year Review**

NEWS

# TALIAN FEST

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### Illinois Environmental Protection Agency

### and U.S. Environmental Protection Agency

to review  
**Jennison-Wright Superfund Site**  
Granite City, Illinois

The Illinois Environmental Protection Agency (Illinois EPA) and United States Environmental Protection Agency (USEPA) are conducting the first five-year review of the Jennison-Wright Superfund site located at 900 West 22nd Street, Granite City, Illinois. The Superfund law requires regular reviews of sites (at least every five years) where cleanup is underway and hazardous waste remains on site. These reviews are done to ensure that the cleanup continues to protect human health and the environment. This is the first of such reviews since construction work began in 2004. The review will evaluate current site conditions, review the program for monitoring groundwater quality, and look at the overall effectiveness of the cleanup actions.

The review report is scheduled to be made public in June 2009 and will be available at the Granite City Public Library and also at the web site: [www.epa.gov/region5/superfund/fiveyear/fyr\\_index.html#five\\_illinois](http://www.epa.gov/region5/superfund/fiveyear/fyr_index.html#five_illinois).

In 1992, Illinois EPA took actions to alleviate the spread of contamination and to stabilize the site. In 1994, a removal action was conducted which included removing and properly disposing of approximately 175 drums of chemicals, removal of waste material from on-site storage vessels, construction of a protective cap over a portion of the site, and excavation of some contaminated soils. The Jennison-Wright site is currently undergoing further cleanup; the additional cleanup is addressing residual soil contamination, waste disposal pits, and contaminated groundwater. Completion of the final cleanup is expected in 2009. The next five-year review will be in 2014.

Site information may be reviewed at:

Granite City Public Library 2001 Delmar Avenue, Granite City, IL 62040 618.876.6316

For more information:

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Mary Tierney  
Remedial Project Manager  
USEPA (SR-6J)  
77 W. Jackson Blvd.  
Chicago, Illinois 60604  
312.886.4785 or Toll-free 800.621.8431 ext. 64785  
Weekdays 10am-5pm

## **Attachment 4: June 2008 Fact Sheet**

**State of Illinois**

Rod R. Blagojevich, Governor

**Illinois Environmental Protection Agency**  
Douglas P. Scott, Director



# **Jennison-Wright Corporation Superfund Site**

## **Granite City, Madison County, Illinois**

### **Site Background**

The Jennison-Wright Corporation site is an abandoned railroad tie-treating facility and is comprised of approximately 20 acres at 900 West 22nd Street within the corporate boundaries of Granite City, Madison County, Illinois. Jennison-Wright treated wood products (railroad ties and wood block flooring) with pentachlorophenol (PCP), creosote, and zinc naphthenate. Operations at the facility began prior to 1921 and continued until 1989 with three separate companies operating at the site: Midland Creosoting Company (prior to 1921-1940), The Jennison-Wright Corporation (1940-1981) and 2-B-J.W., Inc. (1981-1989), authorized to do business as Jennison-Wright Corporation. "Jennite" (an asphalt sealer product composed of coal tar, pitch, clay, and water) was manufactured in the southeastern corner of the facility. The process began in the early 1960s and continued until the summer of 1986 when Jennison-Wright sold the "Jennite" process to Neyra Industries. Neyra Industries continued manufacturing the asphalt sealer until bankruptcy in 1989. Jennison-Wright Corporation filed for Chapter 11 Bankruptcy in November 1989, with an auction held in 1990 to sell the remaining equipment and materials and a site seal order was imposed. The site has remained vacant since 1990 except for the occasional trespasser or scavenger and periodic visits by Illinois EPA personnel and its contractors. In June 1996, the Jennison-Wright site was placed on the National Priorities List (NPL) or "Superfund" list which is the Federal listing of sites that have known or threatened releases of hazardous substances pollutants, or contaminants. No financially viable responsible parties were identified to fund the cleanup. Without Federal Superfund money, the site would not have been cleaned up. Ninety percent (90%) of funding for remedial and removal efforts are obtained through the United States Environmental Protection Agency (USEPA), with the state providing a ten percent (10%) match.

### **Remedial and Removal Activities to Date**

In 1992, approximately \$150,000 of trust fund money from the bankruptcy was used to alleviate the spread of contamination. In 1994, Federal money was used to conduct a non-time critical removal action which included installation of a six-foot chain link fence; installation of a protective cap over the "Jennite pit"; excavation and disposal of soils around the upright storage tanks and railroad cars



and subsequent decontamination and dismantling of those storage vessels; removal and treatment of various on-site waste materials and contaminated soil; and characterization and proper disposal of the material within the drums inside the on-site Transite building. The approximate cost of the non-time critical removal action was \$800,000. In 2003 and 2004, Federal monies (approximately \$1,200,000) were again used to complete the demolition portion, including asbestos removal, of the selected site remedy and to prepare the site for further remedial action. The 2005 remedial action included extensive remedial activities in the portion of the site located north of 22<sup>nd</sup> Street, specifically, the removal and hazardous waste disposal of on-site wastes and continued monitoring of the in situ biological groundwater treatment. Remedial activities associated with soil for this northern parcel are essentially completed, and the majority of the groundwater beneath this parcel has been successfully remediated.

In summary, the following remedial and removal activities, including stabilization efforts, have been conducted at the Jennison-Wright Superfund site since 1992:

- On-site buildings and structures have been demolished and asbestos-containing materials found inside have been abated.
- Debris and miscellaneous items that littered the site have been removed.
- On-site drip track residues/oil and rails have been removed.
- Eighty percent (80%) of waste and soil removal work has been completed. Since excavation began, 34,305 cubic yards of wood-preserving waste was excavated and disposed of off-site; 49,100 cubic yards of contaminated soil was excavated and disposed of off-site. Soils contaminated with PCPs were transported to an off-site incinerator in Canada. Additional excavated materials (not containing wood- preserving contaminants) were transported to a disposal facility (non-hazardous waste landfill) located in East St. Louis.
- The highly-contaminated groundwater plumes containing PCPs have been addressed by utilizing an enhanced biological treatment using oxygen release compounds. This treatment has resulted in successfully addressing the dissolved phase of PCP contamination.

### **Current Activities**

Illinois Environmental Protection Agency (Illinois EPA) and USEPA will be funding the current remedial activities being conducted at the Jennison-Wright Superfund Site. This work includes:

- the excavation and disposal of the remaining on-site contaminated soil and waste; and
- additional groundwater remediation consisting of the current biological treatment, in addition to using a hot water and steam flushing system. Monitored natural attenuation will be used where the groundwater contamination is much lower.

The contractor has begun work on-site. Waste and soil removal and disposal will be completed this calendar year, taking approximately five to six months; it is estimated that the final volume of soil removed from this site will be approximately 94,000 cubic yards. It is estimated that complete construction for the groundwater remediation system will take about one year; it is expected to be completed by Summer 2009. Once constructed, it is expected that the hot water and steam flushing system used to remove additional groundwater contamination will continue its operation from 2009 until 2017. The estimated remaining costs to complete the remedial action at the Jennison-Wright site is \$10.7 million, plus an additional \$1.2 million for the operation and monitoring of the groundwater flushing system.

### **Contacts**

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Rod R. Blagojevich, Governor

**State of Illinois**

**Illinois Environmental Protection Agency**  
Douglas P. Scott, Director



## Attachment 5: Site Inspection Checklist

Please note that "O&M" is referred to throughout this checklist. At sites where Long-Term Response Actions are in progress, O&M activities may be referred to as "system operations" since these sites are not considered to be in the O&M phase while being remediated under the Superfund program.

### Five-Year Review Site Inspection Checklist

I. SITE INFORMATION	
Site name: <b>Jennison-Wright</b>	Date of inspection: <b>November 18, 2008</b>
Location and Region: <b>Granite City, IL</b>	EPA ID: <b>ILD006282479</b>
Agency, office, or company leading the five-year review: <b>EPA</b>	Weather/temperature:
<b>Remedy Includes:</b> (Check all that apply) <div><input type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input checked="" type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Other Bioremediation _____</div> <div><input checked="" type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls</div>	
Attachments:	<input type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached
II. INTERVIEWS (Check all that apply)	
1. O&M site manager _____ Name _____ Title _____ Date _____ Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____ Problems, suggestions; <input type="checkbox"/> Report attached _____ _____	
2. O&M staff _____ Name _____ Title _____ Date _____ Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____ Problems, suggestions; <input type="checkbox"/> Report attached _____ _____	
3. <b>Local regulatory authorities and response agencies</b> (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.  Agency _____	



	<input type="checkbox"/> O&M manual <input type="checkbox"/> As-built drawings <input type="checkbox"/> Maintenance logs Remarks: O&M has not yet begun for this site.	<input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date	x N/A x N/A x N/A
2.	<b>Site-Specific Health and Safety Plan</b> <input type="checkbox"/> Contingency plan/emergency response plan Remarks	x Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
3.	<b>O&amp;M and OSHA Training Records</b> Remarks	<input type="checkbox"/> Readily available	x Up to date	<input type="checkbox"/> N/A
4.	<b>Permits and Service Agreements</b> <input type="checkbox"/> Air discharge permit <input type="checkbox"/> Effluent discharge <input type="checkbox"/> Waste disposal, POTW <input type="checkbox"/> Other permits Remarks	<input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date	x N/A x N/A x N/A x N/A
5.	<b>Gas Generation Records</b> Remarks	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	x N/A
6.	<b>Settlement Monument Records</b> Remarks	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	x N/A
7.	<b>Groundwater Monitoring Records</b> Remarks	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	x N/A
8.	<b>Leachate Extraction Records</b> Remarks	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	x N/A
9.	<b>Discharge Compliance Records</b> <input type="checkbox"/> Air <input type="checkbox"/> Water (effluent) Remarks	<input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date	x N/A x N/A
10.	<b>Daily Access/Security Logs</b> Remarks	x Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
<b>IV. O&amp;M COSTS</b>				
1.	<b>O&amp;M Organization</b> <input type="checkbox"/> State in-house <input type="checkbox"/> PRP in-house	<input type="checkbox"/> Contractor for State <input type="checkbox"/> Contractor for PRP		

☐ Federal Facility in-house

☐ Contractor for Federal Facility

☐ Other \_\_\_\_\_

2. **O&M Cost Records**

☐ Readily available

☐ Up to date

☐ Funding mechanism/agreement in place

Original O&M cost estimate \_\_\_\_\_

☐ Breakdown attached

Total annual cost by year for review period if available

From \_\_\_\_\_ To \_\_\_\_\_  
Date Date

Total cost

☐ Breakdown attached

From \_\_\_\_\_ To \_\_\_\_\_  
Date Date

Total cost

☐ Breakdown attached

From \_\_\_\_\_ To \_\_\_\_\_  
Date Date

Total cost

☐ Breakdown attached

From \_\_\_\_\_ To \_\_\_\_\_  
Date Date

Total cost

☐ Breakdown attached

From \_\_\_\_\_ To \_\_\_\_\_  
Date Date

Total cost

☐ Breakdown attached

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**V. ACCESS AND INSTITUTIONAL CONTROLS** ☐ Applicable ☐ N/A

**A. Fencing**

1. **Fencing damaged**

☐ Location shown on site map

x Gates secured  
N/A

☐

Remarks \_\_\_\_\_

**B. Other Access Restrictions**

1. **Signs and other security measures**

☐ Location shown on site map

☐ N/A

Remarks \_\_\_\_\_ Security guard on-site at night \_\_\_\_\_

**C. Institutional Controls (ICs)**

1. **Implementation and enforcement:**

Site conditions imply ICs not properly implemented

No x N/A

☐ Yes ☐

Site conditions imply ICs not being fully enforced

No x N/A

☐ Yes ☐

Type of monitoring (e.g., self-reporting, drive by) \_\_\_\_\_

Frequency \_\_\_\_\_  
Responsible party/agency \_\_\_\_\_  
Contact \_\_\_\_\_

Name

Title

Date  
Phone no.

Reporting is up-to-date

No x N/A

☐ Yes ☐

Reports are verified by the lead agency

No x N/A

☐ Yes ☐

Specific requirements in deed or decision documents have been met  
Violations have been reported

☐ Yes ☐ No x N/A

☐ Yes ☐

No x N/A

Other problems or suggestions: ☐ Report attached

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. **Adequacy**

☐ ICs are adequate

☐ ICs are inadequate  
x N/A

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**D. General**

1. **Vandalism/trespassing** ☐ Location shown on site map x No vandalism evident

Remarks \_\_\_\_\_  
\_\_\_\_\_

2. **Land use changes on site** x N/A

Remarks \_\_\_\_\_  
\_\_\_\_\_

3. **Land use changes off site** x N/A

Remarks \_\_\_\_\_  
\_\_\_\_\_

**VI. GENERAL SITE CONDITIONS**

**A. Roads** ☐ Applicable ☐ N/A

1. **Roads damaged** ☐ Location shown on site map x Roads adequate ☐ N/A

Remarks \_\_\_\_\_  
\_\_\_\_\_

**B. Other Site Conditions**

Remarks

**VII. LANDFILL COVERS**    ☐ Applicable    x N/A

**A. Landfill Surface**

- |    |   |  |                              |
|----|---|--|------------------------------|
| 1. | <b>Settlement</b> (Low spots)<br>Areal extent _____<br>Depth _____<br>Remarks _____   | <input type="checkbox"/> Location shown on site map<br><input type="checkbox"/> Settlement not evident |                              |
| 2. | <b>Cracks</b><br>Lengths _____ Widths _____ Depths _____<br>Remarks _____   | <input type="checkbox"/> Location shown on site map<br><input type="checkbox"/> Cracking not evident   |                              |
| 3. | <b>Erosion</b><br>Areal extent _____<br>Depth _____<br>Remarks _____  | <input type="checkbox"/> Location shown on site map<br><input type="checkbox"/> Erosion not evident    |                              |
| 4. | <b>Holes</b><br>Areal extent _____<br>Depth _____<br>Remarks _____  | <input type="checkbox"/> Location shown on site map<br><input type="checkbox"/> Holes not evident      |                              |
| 5. | <b>Vegetative Cover</b> <input type="checkbox"/> Grass <input type="checkbox"/> Cover properly established <input type="checkbox"/> No signs of stress<br><input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram)<br>Remarks _____   |  |                              |
| 6. | <b>Alternative Cover (armored rock, concrete, etc.)</b><br>Remarks _____  |  | <input type="checkbox"/> N/A |
| 7. | <b>Bulges</b><br>Areal extent _____<br>Height _____<br>Remarks _____  | <input type="checkbox"/> Location shown on site map<br><input type="checkbox"/> Bulges not evident     |                              |
| 8. | <b>Wet Areas/Water Damage</b><br><input type="checkbox"/> Wet areas <input type="checkbox"/> Wet areas/water damage not evident<br><input type="checkbox"/> Ponding <input type="checkbox"/> Location shown on site map      Areal extent _____<br><input type="checkbox"/> Seeps <input type="checkbox"/> Location shown on site map      Areal extent _____<br><input type="checkbox"/> Soft subgrade <input type="checkbox"/> Location shown on site map      Areal extent _____<br><input type="checkbox"/> Location shown on site map      Areal extent _____<br>Remarks _____ |  |                              |
| 9. | <b>Slope Instability</b> <input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of slope instability<br>Areal extent _____<br>Remarks _____   |  |                              |



<b>B. Benches</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)			
1.	<b>Flows Bypass Bench</b> Remarks _____	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
2.	<b>Bench Breached</b> Remarks _____	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
3.	<b>Bench Overtopped</b> Remarks _____	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
<b>C. Letdown Channels</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A (Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)			
1.	<b>Settlement</b> Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of settlement
2.	<b>Material Degradation</b> Material type _____ Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of degradation
3.	<b>Erosion</b> Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of erosion
4.	<b>Undercutting</b> Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of undercutting
5.	<b>Obstructions</b> Type _____ <input type="checkbox"/> No obstructions <input type="checkbox"/> Location shown on site map      Areal extent _____ Size _____ Remarks _____		
6.	<b>Excessive Vegetative Growth</b> Type _____ <input type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels does not obstruct flow <input type="checkbox"/> Location shown on site map      Areal extent _____ Remarks _____		
<b>D. Cover Penetrations</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A			

1.	<b>Gas Vents</b> <input type="checkbox"/> Properly secured/locked  <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> N/A Remarks _____	<input type="checkbox"/> Active <input type="checkbox"/> Functioning  <input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> Routinely sampled condition	<input type="checkbox"/> Good  <input type="checkbox"/> N/A
2.	<b>Gas Monitoring Probes</b> <input type="checkbox"/> Properly secured/locked  <input type="checkbox"/> Evidence of leakage at penetration Remarks _____	<input type="checkbox"/> Functioning  <input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> Routinely sampled condition <input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> Good  <input type="checkbox"/> N/A
3.	<b>Monitoring Wells</b> (within surface area of landfill) <input type="checkbox"/> Properly secured/locked  <input type="checkbox"/> Evidence of leakage at penetration Remarks _____	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled condition <input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> Good  <input type="checkbox"/> N/A
4.	<b>Leachate Extraction Wells</b> <input type="checkbox"/> Properly secured/locked  <input type="checkbox"/> Evidence of leakage at penetration Remarks _____	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled condition <input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> Good  <input type="checkbox"/> N/A
5.	<b>Settlement Monuments</b> Remarks _____	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed	<input type="checkbox"/> N/A
<b>E. Gas Collection and Treatment</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A				
1.	<b>Gas Treatment Facilities</b> <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____			
2.	<b>Gas Collection Wells, Manifolds and Piping</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____			
3.	<b>Gas Monitoring Facilities</b> (e.g., gas monitoring of adjacent homes or buildings) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____			
<b>F. Cover Drainage Layer</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A				
1.	<b>Outlet Pipes Inspected</b> <input type="checkbox"/> Functioning <input type="checkbox"/> N/A			

Remarks _____		
2.	<b>Outlet Rock Inspected</b> Remarks _____	<input type="checkbox"/> Functioning <input type="checkbox"/> N/A
<b>G. Detention/Sedimentation Ponds</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1.	<b>Siltation</b> Areal extent _____ Depth _____ <input type="checkbox"/> Siltation not evident Remarks _____	<input type="checkbox"/> N/A
2.	<b>Erosion</b> Areal extent _____ Depth _____ <input type="checkbox"/> Erosion not evident Remarks _____	
3.	<b>Outlet Works</b> Remarks _____	<input type="checkbox"/> Functioning <input type="checkbox"/> N/A
4.	<b>Dam</b> Remarks _____	<input type="checkbox"/> Functioning <input type="checkbox"/> N/A
<b>H. Retaining Walls</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1.	<b>Deformations</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Deformation not evident Horizontal displacement _____ Vertical displacement _____ Rotational displacement _____ Remarks _____	
2.	<b>Degradation</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Degradation not evident Remarks _____	
<b>I. Perimeter Ditches/Off-Site Discharge</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1.	<b>Siltation</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Siltation not evident Areal extent _____ Depth _____ Remarks _____	
2.	<b>Vegetative Growth</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A <input type="checkbox"/> Vegetation does not impede flow Areal extent _____ Type _____ Remarks _____	
3.	<b>Erosion</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident Areal extent _____ Depth _____ Remarks _____	

4.	<b>Discharge Structure</b> Remarks _____	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A	
<b>VIII. VERTICAL BARRIER WALLS</b> <input type="checkbox"/> Applicable    x N/A				
1.	<b>Settlement</b> Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident	
2.	<b>Performance Monitoring</b> Type of monitoring _____ <input type="checkbox"/> Performance not monitored Frequency _____ <input type="checkbox"/> Evidence of breaching Head differential _____ Remarks _____			
<b>IX. GROUNDWATER/SURFACE WATER REMEDIES</b> x Applicable <input type="checkbox"/> N/A				
<b>A. Groundwater Extraction Wells, Pumps, and Pipelines</b>				<input type="checkbox"/> Applicable x N/A
1.	<b>Pumps, Wellhead Plumbing, and Electrical</b> <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating Remarks_ Groundwater treatment plant has not been constructed yet. _____	<input type="checkbox"/> Needs Maintenance x N/A		
2.	<b>Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____			
3.	<b>Spare Parts and Equipment</b> <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks _____			
<b>B. Surface Water Collection Structures, Pumps, and Pipelines</b>				<input type="checkbox"/> Applicable    x N/A
1.	<b>Collection Structures, Pumps, and Electrical</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____			
2.	<b>Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____			
3.	<b>Spare Parts and Equipment</b> <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided			

Remarks _____			
<b>C. Treatment System</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	<b>Treatment Train</b> (Check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input checked="" type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input checked="" type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters _____ <input type="checkbox"/> Additive ( <i>e.g.</i> , chelation agent, flocculent) _____ <input type="checkbox"/> Others _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually _____ <input type="checkbox"/> Quantity of surface water treated annually _____ Remarks _____ Treatment system has not been constructed yet. _____		
2.	<b>Electrical Enclosures and Panels</b> (properly rated and functional) <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____		
3.	<b>Tanks, Vaults, Storage Vessels</b> <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs Maintenance Remarks _____		
4.	<b>Discharge Structure and Appurtenances</b> <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____		
5.	<b>Treatment Building(s)</b> <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good condition ( <i>esp.</i> roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks _____		
6.	<b>Monitoring Wells</b> (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____		
<b>D. Monitoring Data</b>			
1.	Monitoring Data <input type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality		
2.	Monitoring data suggests:		

<input type="checkbox"/> Groundwater plume is effectively contained <input checked="" type="checkbox"/> Contaminant concentrations are declining	
<b>D. Monitored Natural Attenuation</b>	
1. <b>Monitoring Wells</b> (natural attenuation remedy) <input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input checked="" type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks: No routine monitoring is happening at the site yet; however, site wells have been sampled periodically.	
<b>X. OTHER REMEDIES</b>	
If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.	
<b>XI. OVERALL OBSERVATIONS</b>	
<b>A. Implementation of the Remedy</b>	
Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). _Construction of remedy is expected to be completed in September 2009_ <hr/> <hr/>	
<b>B. Adequacy of O&amp;M</b>	
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. _O&M has not yet begun._ <hr/> <hr/>	
<b>C. Early Indicators of Potential Remedy Problems</b>	

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

\_NA\_

**D. Opportunities for Optimization**

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

\_Remedy is not yet functioning. \_

## Attachment 6: Community Interviews

### Jennison-Wright Superfund Site Community Questionnaire

- 1) When did you first become aware of the soil and ground-water contamination at the site?
- 2) What concerns do you have about the soil and ground-water contamination?
- 3) Do you have any concerns or are you aware of any community concerns regarding this site? Affects on the community from the site?
- 4) How have you received most of your information about environmental problems at the site?
- 5) How can EPA best provide you with information concerning the cleanup at this site?
- 6) What is your overall impression of the cleanup?
- 7) Is there anything you would like to add?

If you have any more questions please contact:

Virginia Narsete (EPA): 312-886-4359 or  
Michelle Tebrugge, (Illinois EPA): 217-524-4825

### Community Interviews for FYR April 9, 2009

Granite City Mayor and City Engineer:

- The closing of 22<sup>nd</sup> St. for work will be a minor inconvenience for the community.
- There have not been many calls or complaints to the City about this site. There were some calls when the trucks were using the south end instead of the north end for an entrance. However, that was rectified in a timely matter.
- Both officials agree that the remedy is very good and they are satisfied.
- There have been no reports of vandalism or trespassing.
- The projected land use should be restricted to commercial/industrial use.
- They requested that EPA attend the monthly meeting at City Hall in order to facilitate communications.
- They feel EPA communicates with the community well because they haven't received any complaints as would be expected given the town's personality.

Resident 1,2, and 3:

- These gentlemen rent the house; currently six men live there. It is a recovery house. [www.oxfordhouse.org](http://www.oxfordhouse.org)
- These gentlemen were unaware of the site until now. They would like to know more and would attend a public meeting if one were offered.
- They would prefer to receive information via flyer/mailer.



- Future land use suggestions: park or pond. They know it's just wishful thinking though.

Resident 4:

- Former Resident. Current Security Guard for site.
- He says the site doesn't smell as bad as it used to.
- He reports that residents who pass by comment that it looks nice
- People stop by the trailer to inquire about the work being done on site.
- If fact sheets were available here he would pass them out to people who stopped and asked questions.

Resident 5:

- He is a long time resident and worked at the Jennison-Wright for 10 years
- He would not like to see low-income housing as future land use of that area.
- He thinks that there may be crime for storage unit – theft may be an issue.
- He thinks it looks a lot better.

Resident 6:

- Has lived in this home for about 10 yrs.
- He believes that the soil excavation done on his property about 10 years prior is associated with the Jenn-Wright Site
- Concerns: 1) truck traffic causes his house to rattle, 2) trucks come by too early in the morning 3) heavy rain brought heavy yellow clay into his yard 4) the cleanup devalues the homes in the area 5) fears possible contamination of residential areas via run-off and dust
- He would have preferred if EPA bought them out.
- He worries about the kids who play in the area, his grandchildren especially.
- He wishes that EPA would not have done any work.
- The trees that used to cover the site would block the sound of the trains. Now you can hear the trains loud and clear.
- He thinks that elevation onsite is higher than it is on his property, which makes rain water flood his land.
- He thinks it looks good but he doesn't know how it benefits the neighbors.

Resident 7:

- He has lived in the house about 12 years.
- He has known about the contamination for at least a decade.
- Concerns: 1) dust during clean up and 2) truck traffic
- Newspaper is how he gets information about the site. He thinks that the best way to communicate in the future depends on the information to be distributed.
- His overall impression of the clean up is 1) it is a political game, 2) it is a waste of tax payer money, and 3) there was not enough concern shown for the neighborhood because it already looked bad.

Resident 8:

- The residents have known about the site for many years. One of the residents remembers the site/plant as a child.
- Concerns: 1) trucks are ruining the house; the house's foundation is cracking. 2) nothing grows in the yard anymore,
- They said that they have never received information from EPA about the site.
- They think newspaper is the best way to communicate to the public in the future.
- Suggestion: Please repair the fence because children trespass; she sees it happen often.

Resident 9:

- The residents have lived there 8 years, but this is the first they have heard of contamination in the area.
- Concerns: 1) have all the homes been checked?
- They have never received information from the EPA. The best way for them to receive information is via door-hangers or flyers.
- Their overall impression of the site is that it is noisy.

Resident 10:

- She has lived in the area for 9 years but she has known about the contamination for 12 years.
- Concerns: 1) Older kids trespass and her dog gets into the areas – are they safe? 2) What next? What are they going to use the land for?
- She was aware of a community concern involving rats. A neighbor complained about rats in his house and yard. The neighbor claimed that rats were site-related. She did not have any problems with rats.
- She would prefer that the land not be turned into a truck stop.
- She said she is really happy with the cleanup because before the site was such an eyesore.
- She was contacted by a reporter about the site before work ever started on the site.
- She did receive the information sent out by EPA and thinks that such a form of communication is appropriate.

## **Attachment 7: Data Review Tables and Figures**

**Table 4**  
**Confirmation Soil Sample Data Summary Table**

			Naphthalene	Pentachloro-phenol	Carbazole	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene
CUO, ppb			27,000	51,000	954,000	14,000	22,000	32,000	2,000	11,000	2,000
Sample ID	Depth (feet)	Date Sampled									
S01-CS1	1.48	7/11/2005	34J	890U	220U	63	67	43J	51	25J	44U
S02-CS1	2.37	8/3/2005	38U	770U	190U	38U	38U	38U	38U	38U	38U
S03-CS1	3.17	8/3/2005	40U	800U	200U	40U	40U	40U	40U	40U	40U
S04-CS1	4.93	8/3/2005	36U	730U	180U	36U	36U	36U	36U	36U	36U
S05-CS1	2.48	6/17/2005	8.2U	230U	24U	8.1U	10U	11U	4.7U	8.2U	8.3U
S06-CS1	1.52	4/20/2005	350	1,100U	110U	790	2,700	1,700	1,900	1,900	670
S07-CS2	1.90	6/7/2005	73	210U	22U	77	170	92	120	96	35J
S08-CS2	2.17	6/7/2005	6.8U	190U	20U	6.7U	29J	9.5U	17J	19J	6.9U
S09-CS1	3.99	8/3/2005	35U	720U	180U	35U	35U	35U	35U	35U	35U
S10-CS1	2.72	6/17/2005	67	220U	200J	1,400	1,900	850	1,100	980	260
S11-CS1	1.43	4/20/2005	12J	200U	21U	110	290	200	150	130	36
S12-CS2	2.62	6/7/2005	8.3U	230U	24U	37J	110	41J	61	72	19J
S13-CS2	1.65	6/7/2005	7.3U	200U	22U	13J	29J	14J	16J	18J	7.5U
S14-CS1	1.54	7/11/2005	43U	880U	220U	43U	43U	43U	43U	43U	43U
S15-CS1	3.11	7/26/2005	40U	810U	200U	40U	40U	40U	40U	40U	40U
S16-CS1	1.36	6/17/2005	98	210U	100J	710	950	420	520	460	140
S17-CS1	2.83	6/30/2005	35U	700U	180U	35U	35U	35U	35U	35U	35U
S18-CS1	2.93	6/30/2005	35U	720U	180U	35U	35U	35U	35U	35U	35U
S19-CS1	2.84	6/30/2005	40U	820U	200U	40U	40U	40U	40U	40U	40U
S20-CS1	2.39	7/11/2005	39U	790U	200U	39U	16J	39U	16J	31J	28J
S21-CS1	1.66	6/17/2005	7.4U	210U	22U	45	130	44	79	62	19J
S22-CS2	1.19	6/17/2005	7.0U	200U	21U	39	79	34J	56	46	7.1U
S23-CS3	2.40	6/30/2005	39U	790U	200U	89	200	120	120	100	26J
S24-CS2	2.20	6/22/2005	7.7U	220U	23U	7.6U	9.6U	11U	4.4U	7.7U	7.8U
S25-CS2	2.67	6/23/2005	7.9U	220U	23U	93	89	76	80	50	19
S26-CS1	1.23	5/25/2005	33J	240J	51J	180	660	240	430	470	150
S27-CS1	1.88	6/17/2005	7.6U	210U	22U	35J	86	26J	48	42	7.7U
S28-CS2	1.70	6/17/2005	7.3U	200U	21U	7.2U	9.1U	10U	4.2U	7.3U	7.4U
S29-CS2	2.03	6/17/2005	260	200U	22U	110	150	88	110	110	37
S30-CS2	2.50	6/22/2005	8.1U	230U	24U	9.7J	13J	11U	11J	8.1U	8.2U
S31-CS1	3.06	6/30/2005	39U	800U	200U	55	75	47	53	45	39U
S32-CS1	1.77	6/30/2005	39U	800U	200U	36J	77	37J	47	56	39U
S33-CS1	1.58	6/17/2005	7.6U	210U	22U	7.5U	9.4U	11U	4.4U	7.6U	7.7U
S34-CS1	0.80	5/25/2005	210	200U	170J	760	2,000	1,800	1,500	1,500	510
S35-CS1	0.75	5/25/2005	7.2U	200U	21U	7.1U	9U	10U	4.2U	7.2U	7.3U
S36-CS2	3.20	6/22/2005	7.9U	220U	23U	70	120	110	110	103	42
S37-CS1	2.74	7/11/2005	44	830U	210U	48	50	34J	35J	19J	41U
S38-CS1	2.03	7/19/2005	11J	870U	220U	69	160	93	93	49	18J
S39-CS1	2.57	7/26/2005	38U	770U	190U	12J	38U	38U	38U	38U	38U
S40-CS2	1.80	6/7/2005	7.9U	220U	23U	14J	35J	13J	24J	22J	8.0U
S41-CS1	1.61	5/12/2005	7.3U	200U	21U	7.2U	9.1U	10U	4.2U	7.3U	7.4U
S42-CS1	2.90	6/22/2005	7.3U	200U	21U	7.2U	9.0U	10U	4.2U	7.3U	7.4U
S43-CS2	2.94	6/7/2005	310	210U	320	1,600	2,400	1,100	1,700	1,500	490
S44-CS1	2.40	5/12/2005	420	230U	230	950	1,200	580	780	393	160
S45-CS3	2.71	6/23/2005	7.6U	210U	22U	16J	38J	21J	30J	29J	11J
S46-CS1	0.92	5/12/2005	32J	210U	100J	650	2,100	820	1,200	823	290
S47-CS3	2.06	6/23/2005	8.0U	220U	24U	7.9U	10U	11U	4.6U	8.0U	8.2U
S48-CS2	1.68	6/7/2005	8.8J	200U	21U	55	170	82	110	140	29J
S49-CS2	1.76	6/7/2005	150	230U	110J	560	750	390	640	440	100
S50-CS3	3.20	6/23/2005	230	230U	160J	510	1000	870	1000	1100	320
S51-CS1	0.83	5/12/2005	270	210U	130J	790	2,200	920	1,500	1,300	470
S52-CS1	3.48	7/11/2005	640,000	29,000J	98,000	74,000	51,000	23,000	39,000	17,000	5,800
S53-CS1	4.20	7/11/2005	4,900,000	33,000J	470,000	260,000	140,000	64,000	110,000	43,000	44,000
S54-CS1	4.48	7/11/2005	2,600,000	4,300U	110,000U	110,000	74,000	27,000	51,000	22,000	6,700
JWC-22S-CS1	12.00	10/23/2008	41	720U	47	34	32	16	22	12	35U
JWC-22N-CS1	16.00	10/16/2008	5,400,000	54,000	360,000	500,000	330,000	110,000	240,000	94,000	31,000
S55-CS1	16.00	10/14/2008	4,100,000	160,000	820,000	640,000	500,000	140,000	270,000	110,000	34,000
S56-CS1	16.00	10/23/2008	4,200,000	180,000	260,000	350,000	240,000	92,000	180,000	62,000	21,000
S57N-CS2	7.00	10/1/2008	11J	720U	44J	260	200	90	140	71	26J
S58E-CS1	16.00	10/29/2008	3,600,000	110,000U	310,000	440,000	310,000	150,000	24,000	87,000	26,000
S58W-CS1	16.00	8/13/2008	11,000,000	62,000U	710,000	850,000	460,000	220,000	360,000	130,000	71,000
S59-CS1	8.00	11/5/2008	37U	760U	190U	37U	37U	37U	37U	37U	37U
S59-CS1-SW	sidewall	11/5/2008	7,500	3,800	1,500	12,000	23,000	12,000	12,000	7,700	2,700

**Table 4**  
**Confirmation Soil Sample Data Summary Table**

			<b>Naphthalene</b>	<b>Pentachloro-phenol</b>	<b>Carbazole</b>	<b>Benzo(a)anthracene</b>	<b>Benzo(b)fluoranthene</b>	<b>Benzo(k)fluoranthene</b>	<b>Benzo(a)pyrene</b>	<b>Indeno(1,2,3-cd)pyrene</b>	<b>Dibenzo(a,h)anthracene</b>
<b>CUO, ppb</b>			<b>27,000</b>	<b>51,000</b>	<b>954,000</b>	<b>14,000</b>	<b>22,000</b>	<b>32,000</b>	<b>2,000</b>	<b>11,000</b>	<b>2,000</b>
<b>Sample ID</b>	<b>Depth (feet)</b>	<b>Date Sampled</b>									
S60-CS1	8.00	12/15/2008	35U	740U	180U	36U	12J	36U	36U	8.5J	36U
JWC-S60-SW	sidewall	12/15/2008	120	360J	47J	230	510	270	460	320	120
S61-CS1	4.00	9/17/2008	110	730U	730	1,000	700	340	540	240	75
S62-CS1	16.00	7/29/2008	<b>8,600,000</b>	6,200U	640,000	<b>600,000</b>	<b>360,000</b>	<b>96,000</b>	<b>250,000</b>	<b>66,000</b>	<b>21,000</b>
S63-CS1	6.00	8/6/2008	110	520J	14U	720	720	380	400	250	100
S64-CS1	7.00	1/30/2009	3.7U	130U	14U	4.6U	8.0U	7.7U	3.4U	4.7U	4.5U
S65-CS1	2.89	10/11/2007	7.9J	690U	170U	47	70	48	55	42	20J
S66-CS1	4.00	9/23/2008	37U	740U	190U	37U	37U	37U	37U	37U	37U
S67-CS1	5.00	11/16/2007	39U	800U	200U	26J	75	21J	42	51	39U
S68-CS1	5.00	11/16/2007	89	480J	170J	800	1,700	930	1,200	1,400	510
S69E-CS1	5.00	8/13/2008	3.8U	140U	14U	650	470	320	400	130	82
S69W-CS2	3.00	12/11/2007	12J	790U	200U	23J	23J	13J	21J	39U	39U
S70E-CS1											
S70W-CS2	6.00	12/11/2007	13,000	16000U	4000U	360J	780U	780U	250J	780U	780U
S71-CS1											
JWC-JEN Bottom	24.00	12/16/2008	<b>5,201,000</b>	<b>65,000</b>	230,000	<b>330,000</b>	<b>200,000</b>	<b>100,000</b>	<b>160,000</b>	<b>60,000</b>	<b>23,000</b>
S72-CS2	18.00	11/13/2007	41U	820U	200U	17J	14J	10J	12J	41U	41U
S73-CS1	1.95	10/4/2007	36U	720U	180U	38	88	35	53	52	36U
S74-CS1	3.66	10/17/2007	34U	700U	170U	22J	34J	37	34J	35	27J
S75-CS1	7.57	10/17/2007	40U	810U	200U	23J	24J	27J	23J	27J	40U
S76-CS1	3.54	10/2/2007	48	790U	100J	880	1,200	610	900	720	260
S77-CS2	6.30	10/17/2007	39U	800U	200U	15J	13J	8.9J	12J	39U	39U
S78-CS2	5.00	11/16/2007	36U	740U	180U	36U	36U	36U	36U	36U	36U
S79-CS1	4.00	11/16/2007	1,500	410J	380	2,300	1,800	1,100	1,400	870	320
S80N-CS2	7.00	10/2/2007	330	690U	170U	34U	34U	34U	34U	34U	34U
S80W-CS3	4.00	11/29/2007	40U	810U	200U	40U	40U	40U	40U	40U	40U
S80E-CS2	4.00	11/29/2007	45	400J	140J	450	300	140	220	94	32J
S81-CS2	9.00	12/13/2007	35U	710U	180U	14J	35U	8.2J	8.8J	35U	35U
S82-CS1	1.95	10/4/2007	35	760U	190U	1,600	1,600	620	1,200	760	270
S83-CS1	2.28	10/4/2007	11J	710U	180U	97	210	100	140	130	40
S84-CS1	4.32	10/4/2007	44	770U	190U	54	78	34	56	41	38U
S85-CS1											
S86-CS1											
S87-CS1	2.44	9/20/2007	34U	790U	200U	14J	26J	39U	18J	39U	39U
S88-CS1	1.88	9/13/2007	990	670U	300	630	380	230	310	130	56
S89-CS1	4.10	10/11/2007	38U	780U	190U	34J	34J	24J	26J	38U	38U
S90-CS1	1.40	9/13/2007	50	620U	160U	670	1,300	540	880	630	240
S91-CS2	2.21	10/5/2007	13J	790U	200U	58	64	41	54	38	39U

J = below the reporting limit, but above the method detection limit. Value is estimated.

U = below method detection limit, method detection limit listed

Boldfaced and highlighted cells contain concentrations greater than the CUO.

Table 6  
Groundwater Data Summary Table

		Arsenic	Benzene	Benzo(a) anthracene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Pentachloro- phenol	Manganese	Naphthalene	2,4-Dimethyl- phenol	2-Methylphenol
Proposed CUO (µg/L)		50	10	0.13	0.18	0.4	4	1	200	400	200	500
IEPA TACO Tier 1 (µg/L)		50	5	0.13	0.18	0.17	1.5	1	none	25	140	350
MW-1S	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	ND	NS	ND	ND	ND
MW-2S	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	14	NS	2.1	ND	ND
	Nov-2008	NS	NS	<0.2	<0.2	<0.2	<0.50	1.4	NS	0.21 J	<10	<2.0
MW-3S	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	ND	NS	ND	ND	ND
MW-4S	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	ND	NS	ND	ND	ND
MW-5S	Jan-2005	NS	809	ND	ND	ND	ND	1,530	NS	15,900	13,800	22,900
	Sep-2007	NS	950	<9.8	<9.8	<9.8	<25	1,600	NS	19,000	20,000	19,000
	Nov-2008	NS	970	<2.0	<2.0	<2.0	<5.0	780	NS	6,700	19,000	7,300
MW-5SD	Jan-2005	NS	NS	ND	ND	ND	ND	1,600	NS	19,800	17,600	28,500
	Sep-2007	NS	880	<9.8	<9.8	<9.8	<25	1,300	NS	17,000	19,000	17,000
	Nov-2008	NS	920	<1.9	<1.9	<1.9	<4.7	670	NS	15,000	18,000	8,500
MW-5D	Nov-2008	NS	130	<0.21	<0.21	<0.21	<0.52	<0.10	NS	11	4.2 J	4.0
MW-6S	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	1.66	ND	ND
	Sep-2007	NS	ND	<0.2	<0.2	<0.2	ND	3.2	NS	0.37	ND	ND
MW-6M	Nov-2008	NS	<1.0	<0.19	<0.19	<0.19	<0.49	<0.19	NS	0.48 J	<9.7	<1.9
MW-6D	Nov-2008	NS	<1.0	<0.19	<0.19	<0.19	<0.48	0.18	NS	0.59 J	<9.6	<1.9
	Jan-2005	NS	2.34	ND	ND	ND	ND	96,800	NS	200	ND	ND
MW-8S	Sep-2007	NS	7.3	<0.98	<0.98	<0.98	<2.5	74,000	NS	0.37	ND	ND
	Nov-2008	NS	NS	<2.0	<2.0	<2.0	<4.9	58,000	NS	180	<98	<20
MW-8M	Nov-2008	NS	NS	<0.19	<0.19	<0.19	<0.49	0.8	NS	0.29 J	<9.7	<1.9
MW-8D	Nov-2008	NS	NS	<0.20	<0.20	<0.20	<0.50	2.2	NS	<0.99	<9.9	<2.0
MW-9S	Jan-2005	NS	NS	ND	ND	ND	ND	0.167	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	ND	NS	ND	ND	ND
MW-10S	Jan-2005	NS	NS	ND	ND	ND	ND	0.186	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	0.2	NS	ND	ND	ND
MW-11S	Jan-2005	NS	NS	ND	ND	ND	ND	0.0591	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	ND	NS	ND	ND	ND
MW-12S	Jul-2003	NS	ND	ND	ND	ND	ND	ND	287	ND	ND	ND
	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	ND	<0.2	<0.2	<0.2	ND	ND	NS	ND	ND	ND
MW-12SD	Jul-2003	NS	ND	ND	ND	ND	ND	ND	291	ND	ND	ND
	Jan-2005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Sep-2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-13S	Jul-2003	NS	2.33	ND	ND	ND	ND	ND	27.9	ND	ND	ND
	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	ND	<0.2	<0.2	<0.2	ND	ND	NS	ND	ND	ND
MW-14S	Jul-2003	NS	3.98	ND	ND	ND	ND	ND	43.2	ND	ND	ND
	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	ND	<0.2	<0.2	<0.2	ND	ND	NS	ND	ND	ND
MW-15S	Jul-2003	NS	1.6	ND	ND	ND	ND	ND	91	ND	ND	ND
	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	ND	NS	ND	ND	ND

Groundwater Data Summary Table

		Arsenic	Benzene	Benzo(a) anthracene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Pentachloro- phenol	Manganese	Naphthalene	2,4-Dimethyl- phenol	2-Methylphenol
Proposed CUO (µg/L)		50	10	0.13	0.18	0.4	4	1	200	400	200	500
IEPA TACO Tier 1 (µg/L)		50	5	0.13	0.18	0.17	1.5	1	none	25	140	350
MW-16S	Jul-2003	NS	12,600	ND	ND	ND	ND	ND	2,010	152	ND	4.36
	Jan-2005	NS	3,930	ND	ND	ND	ND	ND	NS	72.9	ND	5.48
	Sep-2007	NS	8,200	<0.20	<0.20	<0.20	ND	ND	NS	160	ND	15
	Nov-2008	NS	10,000	<0.20	<0.20	<0.20	<0.51	<0.099	NS	72	5.7 J	8.1
MW-17S	Jul-2003	NS	0.568	ND	ND	ND	ND	ND	680	ND	ND	ND
	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	ND	NS	ND	ND	ND
	Nov-2008	NS	<1.0	<0.19	<0.19	<0.19	<0.47	<0.10	NS	0.35 J	<9.3	<1.9
MW-18S	Jul-2003	NS	2.45	ND	ND	ND	ND	59.8	402	11.4	ND	ND
	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	224	16.4	10.7
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	ND	NS	ND	ND	ND
	Nov-2008	NS	<1.0	<0.20	<0.20	<0.20	<0.50	4.9	NS	1.0	<10	<2.0
MW-19S	Jul-2003	NS	4.79	ND	ND	ND	ND	ND	176	ND	ND	ND
	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	2.97	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	0.14	NS	ND	ND	ND
GP43	Jan-2005	NS	NS	ND	ND	ND	ND	0.114	NS	ND	ND	ND
	Sep-2007	NS	NS	ND	ND	ND	ND	ND	NS	0.17	ND	ND
GP44	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
GP45	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
GP46	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	4.42	ND	ND
	Sep-2007	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
GP47	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	ND	ND	ND	ND	0.11	NS	ND	ND	ND
GP48	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
GP49 (16-20)	Jan-2005	NS	20,400	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Sep-2007	NS	21,000	ND	ND	ND	ND	0.11	NS	420	ND	<2.0
	Dec-2008	NS	23,000	<2.0	<2.0	<2.0	<5.0	0.36	NS	310	35 J	52
GP49 (28-30)	Jan-2005	NS	1140	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Sep-2007	NS	10	ND	ND	ND	ND	ND	NS	0.93	ND	ND
GP49 (26-30)	Dec-2008	NS	9.7	<2.0	<2.0	<2.0	<4.9	0.1	NS	5	1.5 J	2
GP49D (28-30)	Jan-2005	NS	1360	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Sep-2007	NS	14	ND	ND	ND	ND	ND	NS	1	ND	ND
GP50	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	1.78	ND	ND
	Sep-2007	NS	NS	ND	ND	ND	ND	ND	NS	0.18	ND	ND
GP51 (19-23)	Jan-2005	NS	NS	2.05	1.83	2.05	3.69	ND	NS	1,590	3,390	4,300
	Sep-2007	NS	NS	<4.9	<4.9	<4.9	3.3	4,200	NS	12,000	6,800	6,200
GP51 (16-20)	Dec-2008	NS	560	16	11	7.7	14	5,400	NS	7,600	4,100	500
GP51 (28-30)	Jul-2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Jan-2005	NS	NS	2.5	1.27	1.73	2.45	ND	NS	ND	6,680	4,220
	Sep-2007	NS	NS	3.7	<4.9	<4.9	3.9	36	NS	12,000	4,700	830
GP51 (26-30)	Dec-2008	NS	850	6.4	4.0 J	3.2 J	5.9 J	830	NS	12,000	16,000	13,000
GP52	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	85	46	18	66	0.4	NS	14,000	14,000	4500
GP52 (26-30)	Dec-2008	NS	550	58	38	19	48	10	NS	11,000	19,000	10,000

Groundwater Data Summary Table

		Arsenic	Benzene	Benzo(a) anthracene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Pentachloro- phenol	Manganese	Naphthalene	2,4-Dimethyl- phenol	2-Methylphenol
Proposed CUO (µg/L)		50	10	0.13	0.18	0.4	4	1	200	400	200	500
IEPA TACO Tier 1 (µg/L)		50	5	0.13	0.18	0.17	1.5	1	none	25	140	350
GP53 (19-23)	Jan-2005	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Sep-2007	NS	ND	<0.20	<0.21	<0.22	ND	ND	NS	0.27	ND	ND
GP53 (18-22)	Dec-2008	NS	<1.0	<0.2	<0.2	<0.2	<0.51	0.17	NS	0.58 J	<10	<2.0
GP53 (28-30)	Jan-2005	NS	11.1	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Sep-2007	NS	120	<4.0	<4.1	<4.2	<10	0.13	NS	1,300	270	51
GP53 (28-32)	Dec-2008	NS	200	<0.2	<0.2	<0.2	<5.1	0.38	NS	4,900	280	35
GP54	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	ND	NS	1.1	ND	ND
GP55	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	2.06	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	0.31	NS	1.7	ND	ND
GP56	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	ND	NS	ND	ND	ND
GP56 (16-20)	Dec-2008	NS	NS	<0.2	<0.2	<0.2	<0.51	0.2	NS	8.3	5.1 J	<2.0
GP56 (26-30)	Dec-2008	NS	NS	<0.2	<0.2	<0.2	<0.50	0.2	NS	0.58 J	<9.9	<2.0
GP57	Jan-2005	NS	NS	ND	ND	ND	ND	24.4	NS	1.58	ND	5.86
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	0.44	NS	ND	ND	ND
GP57 (16-20)	Dec-2008	NS	NS	<0.22	<0.22	<0.22	<0.56	110	NS	1.5	<11	<2.2
GP57 (26-30)	Dec-2008	NS	NS	<0.20	<0.20	<0.20	<0.51	4.4	NS	0.33 J	<10	<2.0
GP58	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	1.03	ND	ND
	Sep-2007	NS	NS	<0.19	<0.19	<0.19	ND	ND	NS	ND	ND	ND
GP58 (16-20)	Dec-2008	NS	NS	<0.2	<0.2	<0.2	<0.51	<0.10	NS	0.40 J	<10	<2.0
GP58 (26-30)	Dec-2008	NS	NS	<0.2	<0.2	<0.2	<5.1	670	NS	0.50 J	<10	1.2 J
GP59	Jan-2005	NS	NS	ND	ND	ND	ND	33,000	NS	1.03	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	700	NS	ND	ND	ND
GP59 (16-20)	Dec-2008	NS	NS	<0.2	<0.2	<0.2	<0.49	13	NS	<0.98	<9.8	<2.0
GP59 (26-30)	Dec-2008	NS	NS	<0.2	<0.2	<0.2	<0.5	1,300	NS	0.55 J	<10	<2.0
GP60 (22-23)	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	2.14	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	0.26	NS	ND	ND	ND
GP60 (16-20)	Dec-2008	NS	NS	<0.2	<0.2	<0.2	<0.49	1,300	NS	55	<9.8	<2.0
GP60(30-31)	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	ND	NS	ND	ND	ND
GP60 (26-30)	Dec-2008	NS	NS	<0.21	<0.21	<0.21	<0.52	1,100	NS	1.1	<10	<2.1
GP61 (22-23)	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	1,900	NS	ND	ND	ND
GP61 (16-20)	Nov-2008	NS	NS	<0.20	<0.20	<0.20	<0.50	0.12	NS	0.58 J	<9.9	<2.0
GP61 (30-31)	Jan-2005	NS	NS	ND	ND	ND	ND	31,800	NS	81.9	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	<5.0	61,000	NS	ND	ND	ND
GP61 (26-30)	Nov-2008	NS	NS	<4.0	<4.0	<4.0	<10	62,000	NS	120	38 J	<40
GP62	Jan-2005	NS	NS	ND	ND	ND	ND	ND	NS	ND	ND	ND
	Sep-2007	NS	NS	<0.2	<0.2	<0.2	ND	ND	NS	ND	ND	ND
GP63 (16-20)	Nov-2008	NS	NS	<0.22	<0.22	<0.22	<0.54	<0.10	NS	<1.1	<11	<2.2
GP63 (26-30)	Nov-2008	NS	NS	<0.20	<0.20	<0.20	<0.50	0.39	NS	<1.0	<10	<2.0
GP64 (16-20)	Nov-2008	NS	NS	<0.20	<0.20	<0.20	<5.0	0.24	NS	0.39 J	<10	<2.0
GP64 (26-30)	Nov-2008	NS	NS	<0.19	<0.19	<0.19	<0.48	0.15	NS	0.24 J	<9.6	<1.9
GP65 (16-20)	Dec-2008	NS	NS	<0.20	<0.20	<0.20	<0.51	0.24	NS	<1.0	<10	<2.0
GP65 (26-30)	Dec-2008	NS	NS	<2.1	<2.1	<2.1	<5.2	0.92	NS	3,000	3,600	<21
GP66 (16-20)	Dec-2008	NS	<1.0	<0.20	<0.20	<0.20	<0.51	0.090 J	NS	3.5	2.5 J	4.6
GP66 (26-30)	Dec-2008	NS	<1.0	0.39	0.23	<0.20	0.39 J	0.086	NS	2.1	<10	<2.0
GP67 (16-20)	Dec-2008	NS	<10	<0.20	<0.20	<0.20	<0.51	<0.10	NS	6.1	<10	<2.0
GP67 (26-30)	Dec-2008	NS	3.8	<0.20	<0.20	<0.20	<0.50	<0.10	NS	2.3	<9.9	<2.0



**Table 7**  
**2008 Soil Boring Sample Data Summary Table**

		Naphthalene	Pentachlorophenol	Carbazole	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene
CUO, ppb		27,000	51,000	954,000	14,000	22,000	32,000	2,000	11,000	2,000
Sample ID	Date Sampled	Sample results are in parts per billion (ppb)								
SB1 (1-2)	11/18/2008	160U	3,300U	960	2,600	2,700	1,800	2,500	1,400	520
SB1 (3-4)	11/18/2008	39U	790U	200U	39U	39U	39U	39U	39U	39U
SB2 (1-2)	11/18/2008	320	4,000U	990U	1,000	3,500	1,300	2,200	2,100	640
SB2 (3-4)	11/18/2008	37U	750U	190U	8.3J	19J	10J	16J	19J	9J
SB3 (1-2)	11/18/2008	120J	2,900U	230J	780	2,300	1,400	1,500	1,700	590
SB3 (3-4)	11/18/2008	38U	770U	190U	38U	38U	38U	38U	38U	38U
SB4 (1-2)	11/18/2008	120	780U	170J	680	1,800	940	1,400	1,700	610
SB4 (3-4)	11/18/2008	67	750U	190U	240	640	570	500	530	190
SB5 (1-2)	11/18/2008	39J	3,000U	750U	180	330	120J	230	190	67J
SB5 (3-4)	11/18/2008	38U	780U	190U	38U	38U	38U	38U	38U	38U
SB6 (1-2)	11/18/2008	39U	790U	180J	530	1,600	720	1,300	1,500	550
SB6 (3-4)	11/18/2008	38U	780U	190U	38U	38U	38U	38U	9J	38U
SB7 (1-2)	11/18/2008	150	2,900U	300J	1,100	3,200	1,500	2,000	2,200	740
SB7 (3-4)	11/18/2008	38U	770U	190U	38U	38U	38U	38U	38U	38U
SB8 (1-2)	11/18/2008	39J	800U	200U	480	1,100	740	890	750	320
SB8 (3-4)	11/18/2008	36U	730U	180U	11J	19J	22J	24J	22J	36U
SB9 (1-2)	11/18/2008	870	7,300U	3,000	15,000	28,000	26,000	18,000	21,000	3,600
SB9 (3-4)	11/18/2008	39U	790U	200U	10J	28J	12J	18J	20J	39U
SB10 (1-2)	11/18/2008	130	740U	150J	350	810	420	490	740	230
SB10 (3-4)	11/18/2008	38U	760U	190U	38U	9J	38	8J	10J	38U
SB11 (1-2)	11/18/2008	890	7,800U	2,100	10,000	25,000	9,500	15,000	24,000	7,100
SB11 (3-4)	11/18/2008	53	750U	57J	430	1,100	460	740	610	210
SB12 (1-2)	11/18/2008	640	6,900U	1,500J	28,000	55,000	20,000	37,000	25,000	16,000
SB12 (3-4)	11/18/2008	39U	790U	200U	11J	32J	10J	24J	37J	22J
SB13 (1-2)	11/18/2008	400	7,200U	1,400J	28,000	24,000	17,000	26,000	16,000	8,500
SB13 (3-4)	11/18/2008	44	710U	75J	660	610	440	610	370	78
SB13D (1-2)	11/18/2008	570	7,400U	1,300J	39,000	47,000	21,000	37,000	19,000	9,700
SB13D (3-4)	11/18/2008	49	740U	110J	930	950	430	860	560	220
SB14 (1-2)	11/18/2008	15J	730U	180J	98	130	85	110	92	38
SB14 (3-4)	11/18/2008	1,300	800U	170J	98	130	85	110	92	38
SB15 (1-2)	11/18/2008	570	7,400U	560J	20,000	20,000	13,000	19,000	14,000	5,300
SB15 (2-3)	11/18/2008	63	810U	71J	1,100	1,000	610	1,000	460	140
SB16 (1-2)	11/18/2008	120	730 U	98J	880	1,100	930	1,000	740	310
SB16 (3-4)	11/18/2008	430	8,000U	2,000U	3,100	3,800	3,000	3,400	2,800	1,300
SB17 (1-2)	11/19/2008	2,400	800J	1,500	2,100	7,400	2,700	5,300	6,400	2,200
SB17 (5-6)	11/19/2008	91,000	25,000J	64,000	96,000	120,000	50,000	93,000	62,000	16,000
SB17 (9-10)	11/19/2008	1,600,000	84,000U	160,000	87,000	55,000	25,000	42,000	15,000	4,800
SB17 (15-16)	11/19/2008	9,600,000	300,000U	430,000	490,000	330,000	140,000	230,000	86,000	27,000
SB18 (1-2)	11/19/2008	130	830U	100J	600	720	490	560	340	160
SB18 (5-6)	11/19/2008	41U	830U	210U	10J	24J	41U	13J	19J	41U
SB18 (9-10)	11/19/2008	35U	720U	180U	35U	35U	35U	35U	35U	35U
SB13 (13-14)	11/19/2008	43U	870U	220U	43U	43U	43U	43U	43U	43U
SB19 (1-2)	11/19/2008	43U	870U	220U	43U	43U	43U	43U	43U	43U
SB19 (5-6)	11/19/2008	39U	790U	200U	39U	39U	39U	39U	39U	39U
SB19 (9-10)	11/19/2008	41U	830U	210U	41U	41U	41U	41U	41U	41U
SB19 (13-14)	11/19/2008	13J	830U	210U	41U	41U	41U	41U	41U	41U
SB20 (1-2)	11/19/2008	27J	810U	42J	420	480	220	370	210	85
SB20 (5-6)	11/19/2008	38U	770U	190U	38U	38U	38U	38U	38U	38U
SB20 (9-10)	11/19/2008	35U	710U	180U	35U	35U	35U	35U	35U	35U
SB20 (12-13)	11/19/2008	40U	810U	200U	40U	40U	40U	40U	40U	40U
SB21 (1-2)	11/20/2008	270	780U	120J	570	1,000	770	890	660	230
SB21 (5-6)	11/20/2008	45U	910U	230U	45U	11J	45U	11J	12J	9.4J
SB21 (9-10)	11/20/2008	38U	760U	190U	38U	38U	38U	38U	38U	38U
SB21 (12-13)	11/20/2008	21J	850U	210U	22J	86	31J	62	48.0	16J

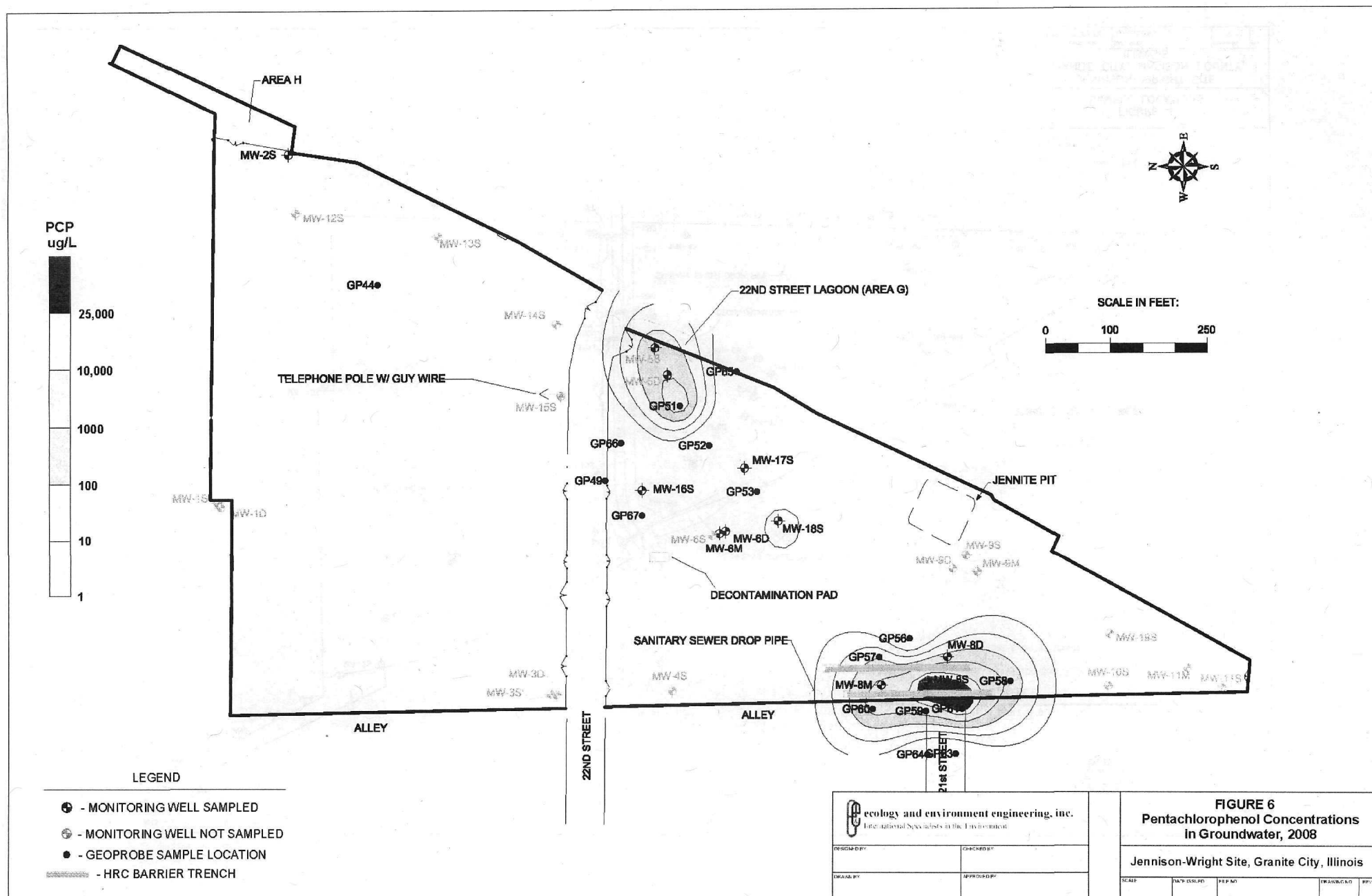
**Table 7**  
**2008 Soil Boring Sample Data Summary Table**

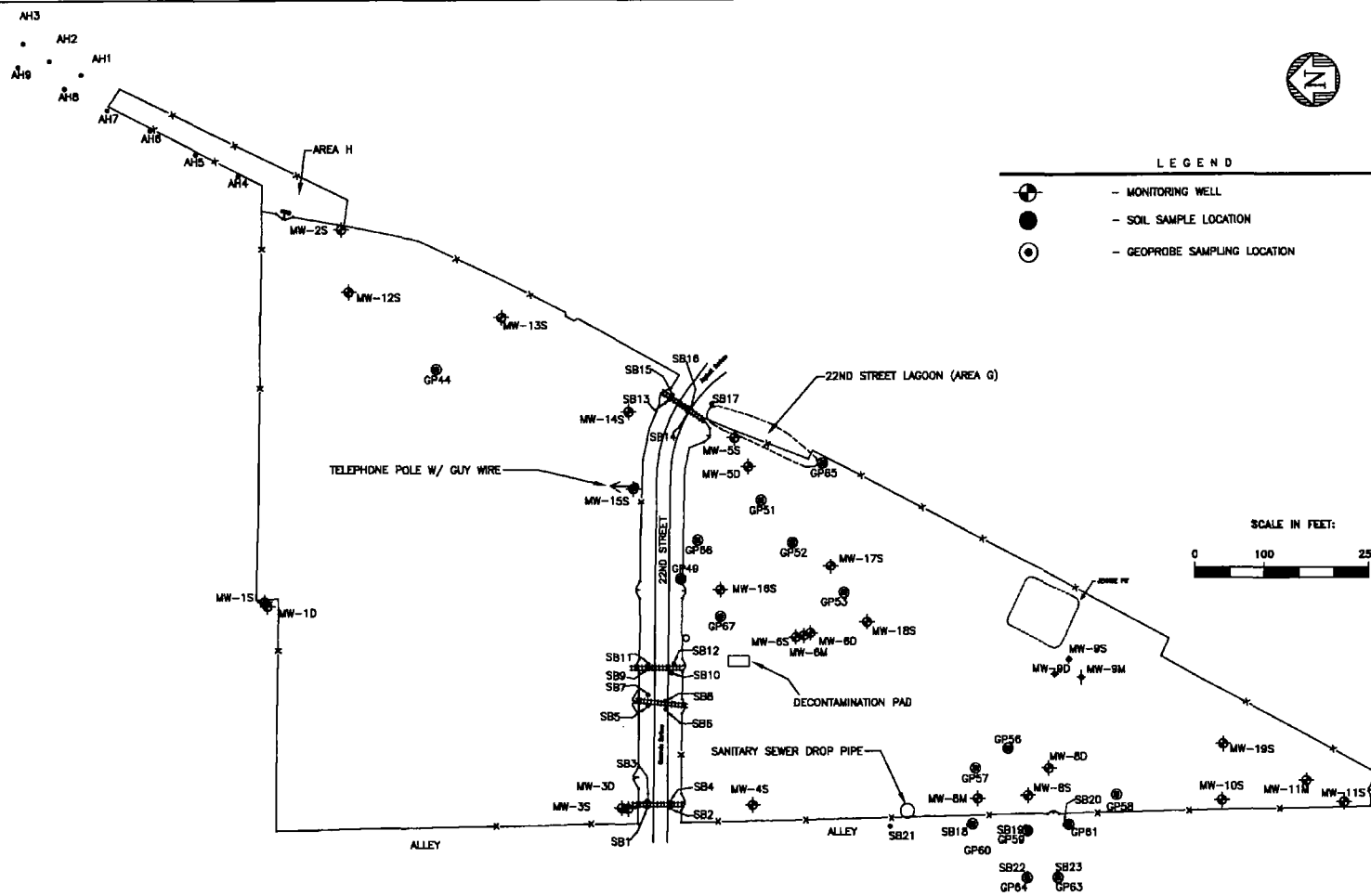
		Naphthalene	Pentachloro-phenol	Carbazole	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene
<b>CUO, ppb</b>		<b>27,000</b>	<b>51,000</b>	<b>954,000</b>	<b>14,000</b>	<b>22,000</b>	<b>32,000</b>	<b>2,000</b>	<b>11,000</b>	<b>2,000</b>
Sample ID	Date Sampled	Sample results are in parts per billion (ppb)								
SB22 (1-2)	11/19/2008	11J	810U	200U	40U	10J	40U	40U	8.9J	40U
SB22 (5-6)	11/19/2008	39U	800U	200U	39U	39U	39U	39U	39U	39U
SB22 (9-10)	11/19/2008	40U	820U	200U	40U	40U	40U	40U	40U	40U
SB22 (12-13)	11/19/2008	42U	860U	220U	42U	42U	42U	42U	42U	42U
SB23 (1-2)	11/19/2008	150	750U	190U	300	420	210	300	170	76
SB23 (5-6)	11/19/2008	37U	750U	190U	37U	37U	37U	37U	37U	37U
SB23 (9-10)	11/19/2008	190	720U	180U	35U	35U	35U	35U	35U	35U
SB23 (12-13)	11/19/2008	110	870U	220U	43U	43U	43U	43U	43U	43U
SB23 (12-13)	11/19/2008	110	870U	220U	43U	43U	43U	43U	43U	43U
AH-1	11/20/2008	<b>81,000,000</b>	<b>1,600,000U</b>	<b>26,000,000</b>	<b>3,400,000</b>	<b>2,100,000</b>	<b>1,200,000</b>	<b>1,700,000</b>	<b>720,000</b>	<b>260,000</b>
AH-2	11/20/2008	<b>61,000</b>	<b>2,000J</b>	<b>15,000</b>	<b>82,000</b>	<b>240,000</b>	<b>100,000</b>	<b>150,000</b>	<b>120,000</b>	<b>62,000</b>
AH-3	11/20/2008	180	960	330	540	1,700	670	800	1,600	270
AH-4	11/21/2008	41U	840U	210U	41U	32J	17J	15J	26J	41U
AH-5	11/21/2008	40U	810U	200U	16J	35J	13J	17J	19J	40U
AH-5DUP	11/21/2008	42U	860U	210U	13J	43	19J	18J	30J	9.2J
AH-6	11/21/2008	30J	840U	210U	38J	97	45	48	57	17J
AH-7	11/21/2008	38U	770U	190U	11J	19J	11J	13J	10J	38U
AH-8	11/21/2008	39U	790U	200U	39U	11J	39U	39U	39U	39U
AH-9	11/21/2008	38U	760U	190U	14J	29J	11J	16J	12J	38U

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U = Result is less than the method detection limit and the method detection limit is listed.

Boldfaced and highlighted cells contain concentrations greater than the CUO.





## **Attachment 8: List of Documents Reviewed**

- The January 1994 EE/CA and September 1999 EE/CA by Illinois EPA
- The September 29, 1999 Record of Decision by Illinois EPA
- The July 2003 Remedial Design by Illinois EPA
- The October 2005 ESD by Illinois EPA and U.S. EPA
- The June 2009 ESD by Illinois EPA and U.S. EPA